NAVAL FIGHTERS NUMBER SIXTY-FOUR

NORTH AMERICAN
A-5A RA-5C
VIGILANTE

NATC
150824
824

BY STEVE GINTER

I Feel the Need, The Need for Speed

UNARMED & UNAFRAID
RA-5C

In 1971-72 RVAH-11 RA-5Cs carried the motto "North American Racing Team - Phantom for Lunch Bunch"

THE VIGILANTE AN AIRCRAFT OF MANY FIRSTS:

North American Aviation incorporated a great many aviation innovations into the design and production of the Vigilante. These firsts included:

1.) The first use of an airborne digital computer for bombing and navigational computations.
2.) The first bombing navigational system with inertial auto-navigator coupled to radar and television sight for checkpoint acquisition.
3.) First production heads-up display installation.
4.) First fully integrated autopilot and air data system for bombing navigational weapon release solution.
5.) First use of aluminum-lithium alloy in aircraft construction.
6.) First multi-mode Ku band monopulse radar with terrain avoidance features.
7.) First operational use of slot deflector spoilers following joint R&D development with North American's F-107 program.
8.) First variable inlet using horizontal ramp geometry.
9.) First application of H-11 hot work tool steel in fuselage machined frames.
10.) First use of Trux high-speed steel for landing gear struts.
11.) First production fly-by-wire control system.

CONTRIBUTORS:
Scoot Bloom, Steve Brown, Fred Freeman, Harry Gann, Hill Goodspeed, Gene "Mule" Holmberg, Craig Kaston, Bob Lawson, T. Matsuzaki, David Menard, Wayne Morris, Terry Panopolis, Pima Air and Space Museum, Mick Roth, Fred Roos, San Diego Aerospace Museum, Larry Smalley, William Swisher, Tailhook Association, Norm Taylor, and Nick Williams.

RECOMMENDED READING:
Two sources of Vigilante information are highly recommended as complementary reading for this book. Hill Goodspeed's 65-page article in Wings of Fame Vol. 19 published in 2000 and "Boom" Powell's RA-5C Vigilante Units in Combat (Osprey Combat Aircraft #51) published in 2004.

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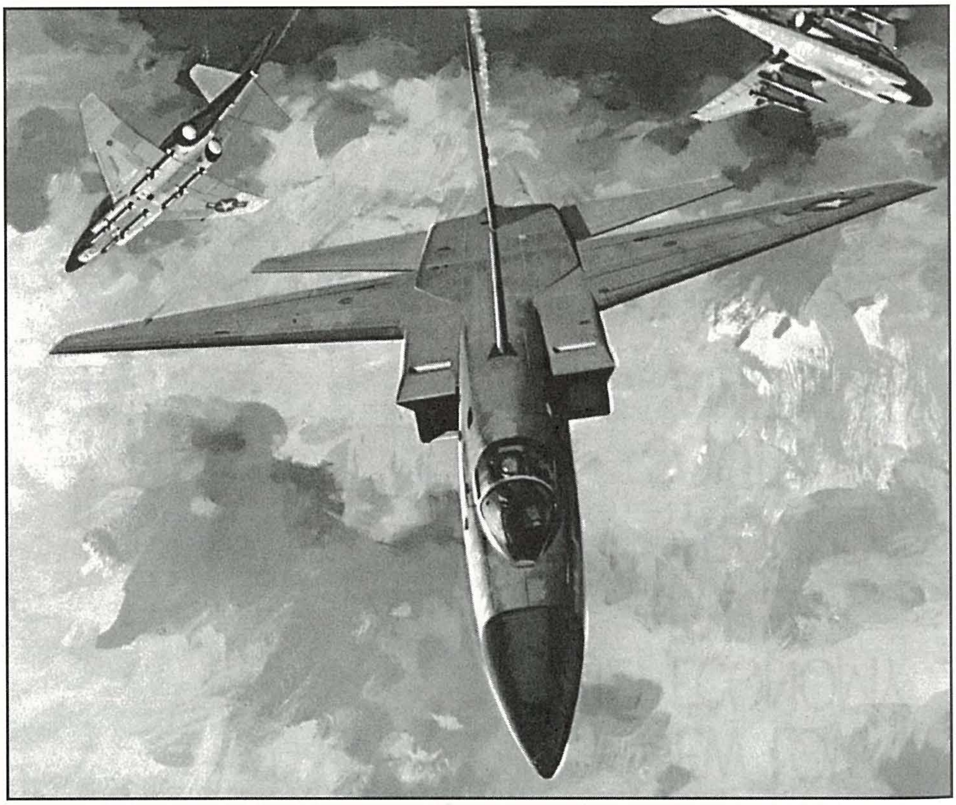
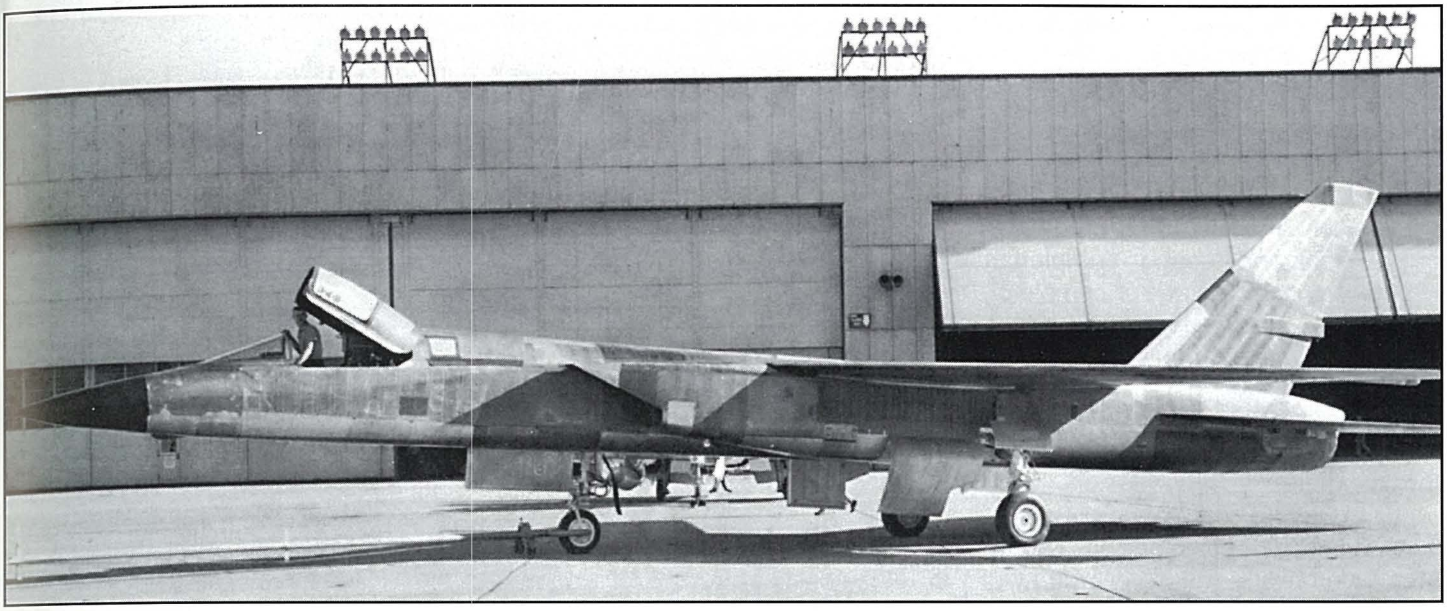
RA-5C
VIGILANTE
RA-5C VIGILANTE
YANKEE STATION

FRONT COVER: RA-5C BuNo 150824 was assigned to the Naval Air Test Center, Patuxent River, MD. (MFR)

BACK COVER: Top to bottom; A3J-1 BuNo 147856 assigned to the Naval Weapons Evaluation Facility (NWEF) in 1961. (Steve Brown) RVAH-3 RA-5C BuNo 156640. (USN) RVAH-6 RA-5C BuNo 150841 at NAF Atsugi on 26 April 1969. (Toyokazu Matsuzaki) RVAH-12 RA-5C BuNo 156643. (via Gene Holmberg)



NORTH AMERICAN A-5A / RA-5C VIGILANTE

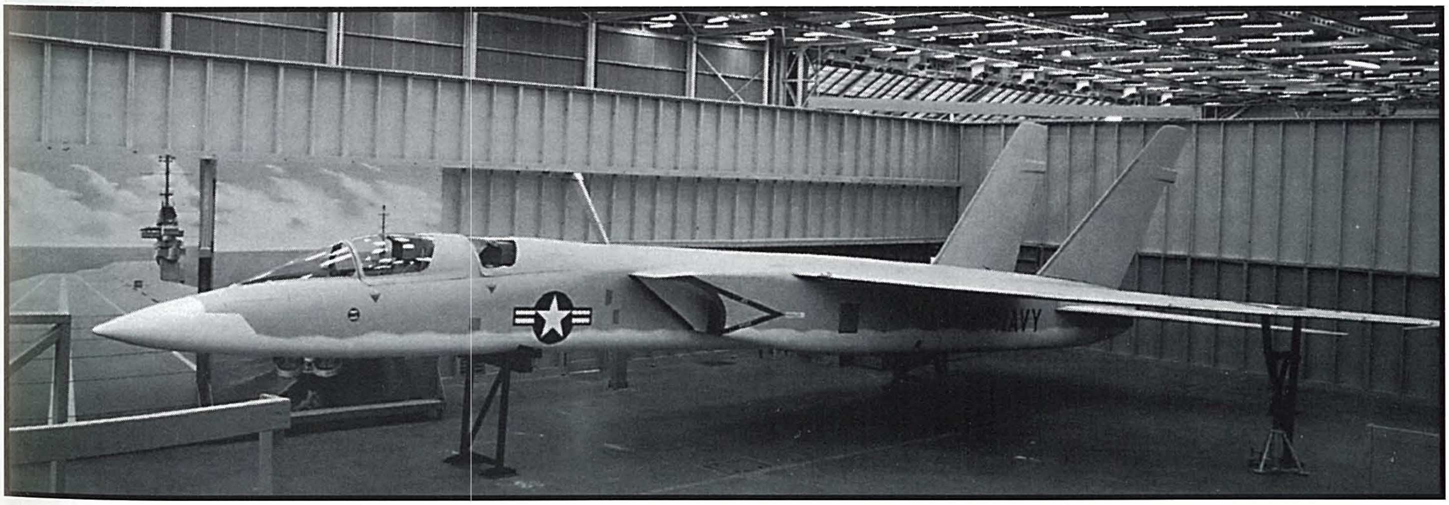


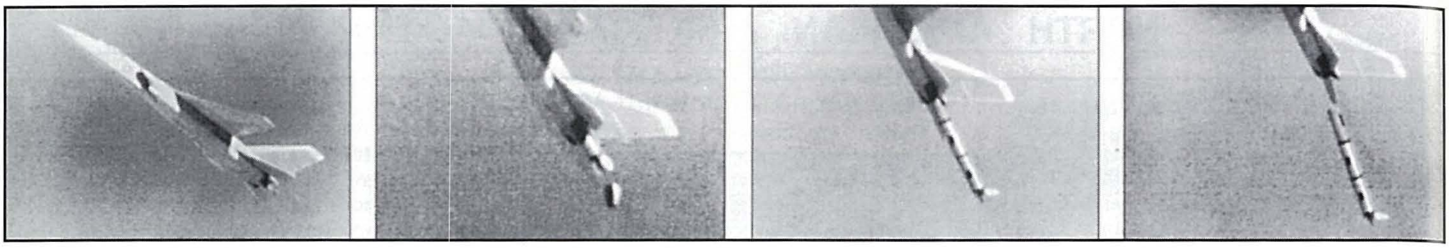
Above, prototype YA3J-1, BuNo 145157, on its way to the paint shop in preparation for its roll-out ceremony. Gear doors were atypically open. (MFR) Bottom, original twin-tailed mock-up. (MFR)

INTRODUCTION:

The origins of the Vigilante date back to 1953, when Frank G. Compton started work at North American's Columbus Division on a company proposal that would be known initially as the North American General Purpose Attack Weapon (NAGPAW). NAGPAW was an extension of the company's research into low altitude weapons delivery techniques and was meant to replace both North American's AJ-1/2 Savage (see Naval Fighters #22) and the Douglas A3D Skywarrior series of nuclear attack bombers (see Naval Fighters #45 and #46). Originally, the NAGPAW proposal was for a smallish single seat, twin engined, nuclear attack bomber with a linear bomb bay and high sub-sonic speeds. It was to attack at low-altitude using the LABS bombing system. The proposal was submitted to BuAer in January 1954.

BuAer responded with a request for the aircraft's speed to be increased to Mach 2 for high altitude penetration and for it to be capable of making a carrier take-off in a no-wind condition while carrying a full complement of fuel and weapons. These criteria prompted North American to envision the aircraft accelerating from Mach 1.6 at 50,000 feet through Mach 2+ at 70,000 feet with the aid of a rocket motor. To test this theory, two FJ-4s were converted to rocket test ships and re-designated FJ-4Fs (see Naval Fighters #25). The speed and altitude issues caused the revised proposal to grow in overall size and weight while wing area was increased dramatically to accommodate the zero wind over the deck requirement. In addition, a second crew member was added to aid in navigation and targeting solutions. As resubmitted to BuAer in April 1955, the Vigilante (NA-233) had a 769 square foot low-thickness-to-chord ratio wing with near full-span blown flaps.



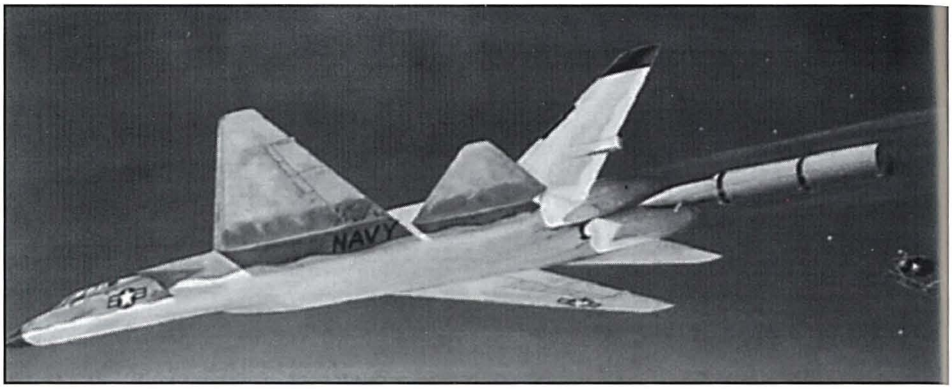


In February 1956, with wind tunnel preliminary testing complete, North American was free to complete the formal mock-up which was reviewed in March. Final changes to the mock-up included a single vertical fin, re-designed intakes, the design of an expendable tail cone to replace the original clamshell design, and slightly different rear canopy. On 29 June 1956 a letter of intent was let for 86 million dollars, which covered two YA-3Js and a static test airframe. The contract was signed on 17 September.

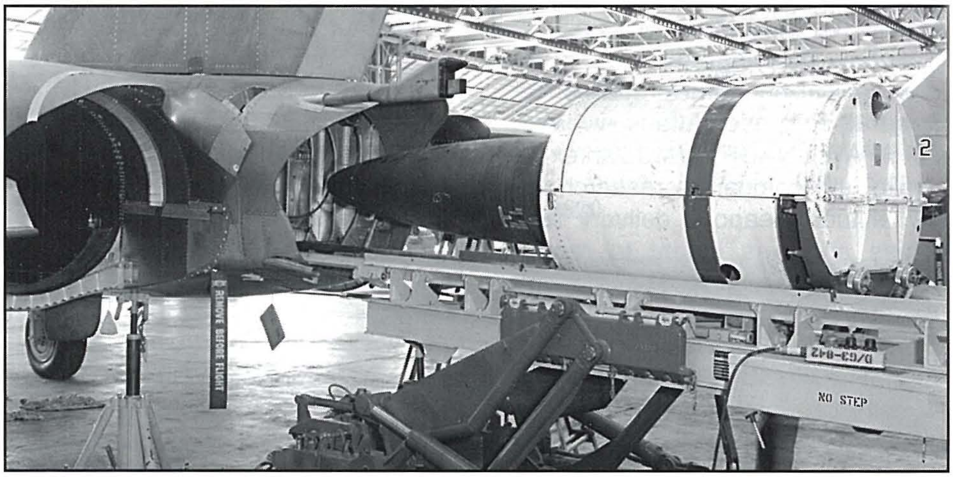
LINEAR BOMB BAY:

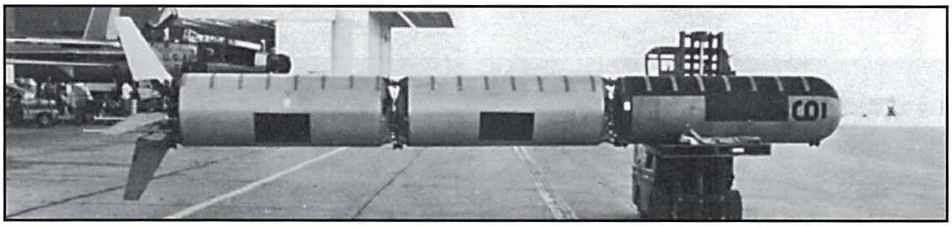
The key design issue for this aircraft other than performance was North American's design solution for special weapons delivery. Accuracy issues were to be solved by utilizing an inertial navigation system linked to the radar and a television bombing sight. This system would be aligned prior to flight after programming-in known targeting data. This very accurate target navigation system was married to a linear bomb bay which was located between the two engines. The new type of bomb bay was circular in shape and weapons separation was accomplished by explosively ejecting the weapons out the tail of the aircraft. In this design, the weapon was fitted to the front end of two tandem fuel cells and was ejected aft by means of an internal store ejection gun. At the same time, the tail cone would be blown so that the empty fuel cans with weapon attached could be ejected safely.

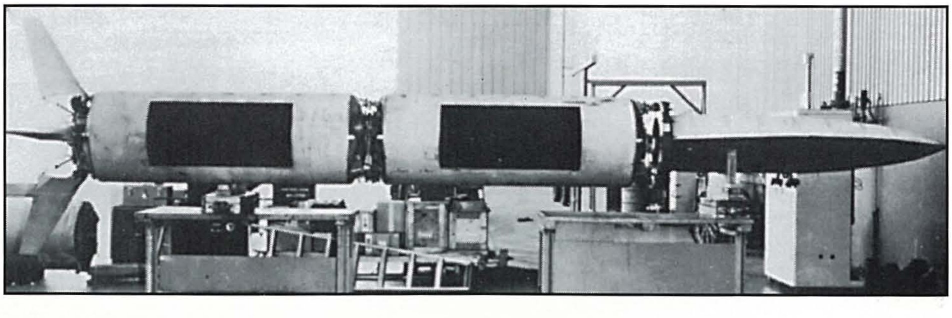
The actual maneuver was accomplished by pulling vertical over the target and releasing the weapon out the aft end of the aircraft 18.3 seconds later at a minimum altitude of 9,660 feet. Once separation was achieved, the pilot went inverted and



At top, linear bomb bay weapons release sequence of test conducted on 4 October 1961. (MFR) Above, North American artist rendition of a nuclear weapons release. Below, a Mk 43 sabot type warhead being test fitted to ship number 8 at Columbus. (MFR) Below middle, a Mk 27 bomb train with fins. (MFR) Bottom, Mk 43 weapon train. (MFR)





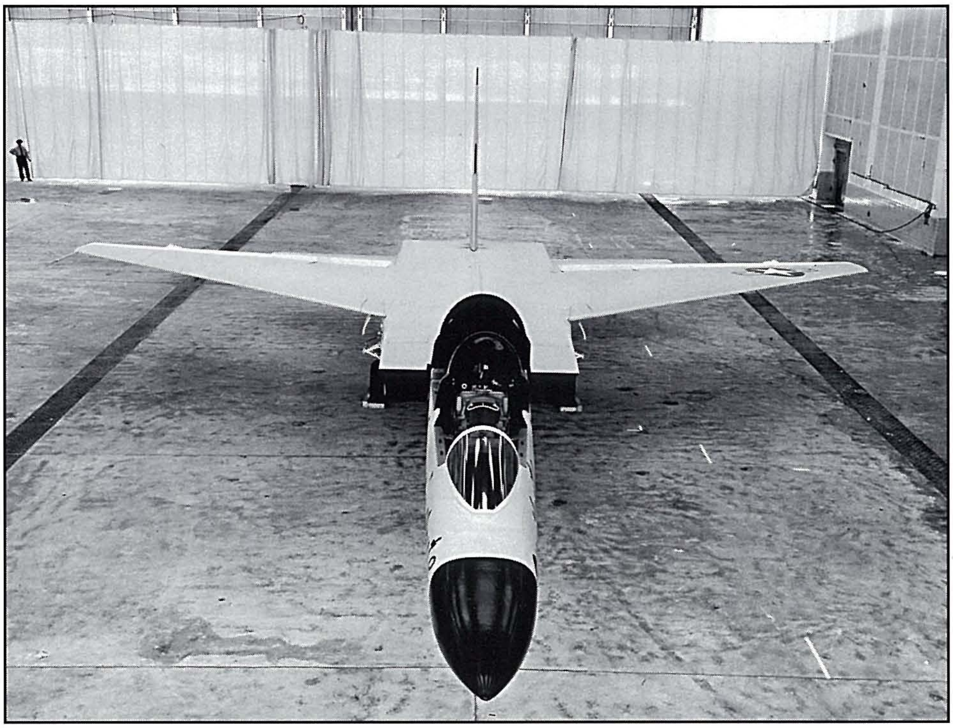


rolled out for egress at max burner. Unfortunately, the linear bomb bay never was reliable and was never utilized operationally by the fleet. During Initial Trials Phase testing (ITP) at Kirtland AFB in June through December 1962, it was found wanting. The weapons package had a nasty habit of drafting in the wake of the Vigilante after ejection, which destroyed any chance of accuracy.

ROLL-OUT AND FIRST FLIGHTS:

Roll-out for the prototype YA3J-1 Vigilante (BuNo 145157) took place on 16 May 1958 at Columbus, OH. For the next three months ground testing and high speed taxi runs were conducted in preparation for the aircraft's first flight. Dick Wenzel, chief company test pilot at Columbus, flew the prototype for the first time on 31 August 1958. No significant problems were encountered while the aircraft reached an altitude of 35,000 feet and a speed of .92 Mach during its one-hour maiden flight. In all, twelve malfunctions were noted as items of concern and in need of correction. After eleven test flights totalling 9-hours and 40-minutes, ship number one was removed from flight status in early October for installation of the bomb bay fuel system. By this time, the aircraft had increased its flight envelope to 40,000 feet and speeds of 1.4 Mach.

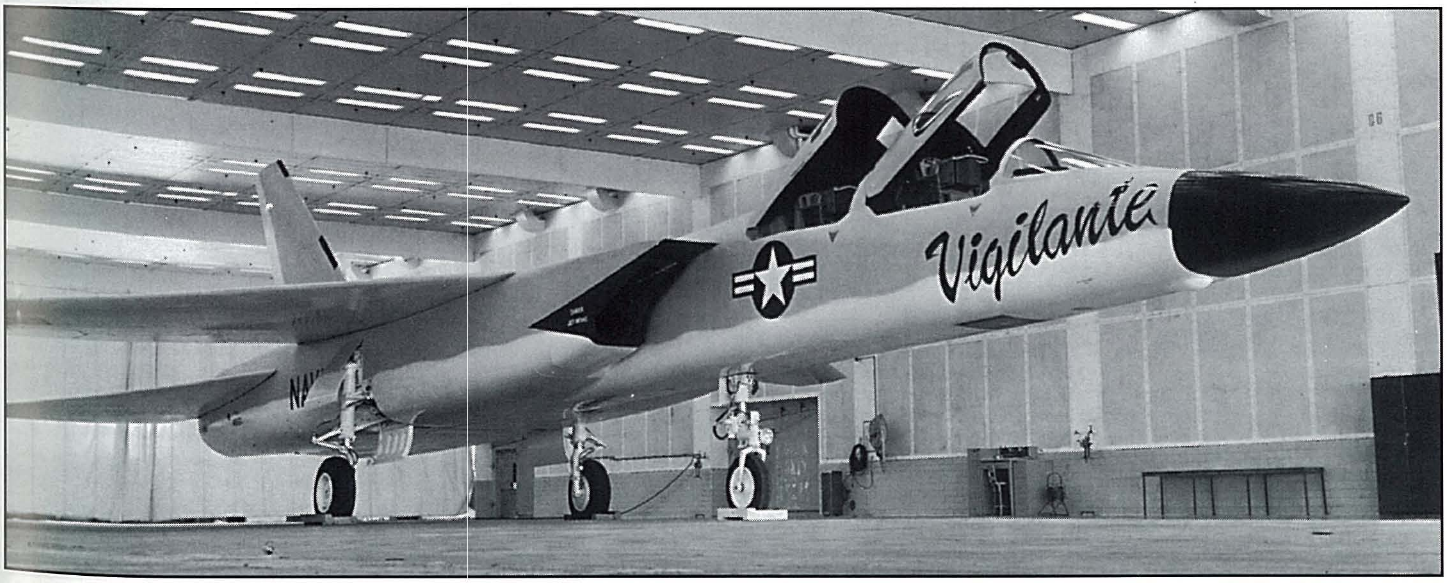
The second prototype, YA3J-1 BuNo 145158, joined the flight test program in November 1958. By May 1959, the two aircraft had flown a total of forty test flights and completed the Phase One Preliminary Evaluation. Outside of some problems with the automatic inlet positioning system, the aircraft was showing good performance in all flight regimes including carrier suitability characteristics. The prototypes had exceeded Mach 2.0 on several occasions and had performed full deflection rolls at Mach 1.7. On 3 June 1959, 145158 crashed on its 49th test flight after a hydraulic and electrical system failure. 145157 completed 307 test flights before conversion to an RA-5C and the two aircraft flew a total of 500 flight test hours for North American and the Navy.

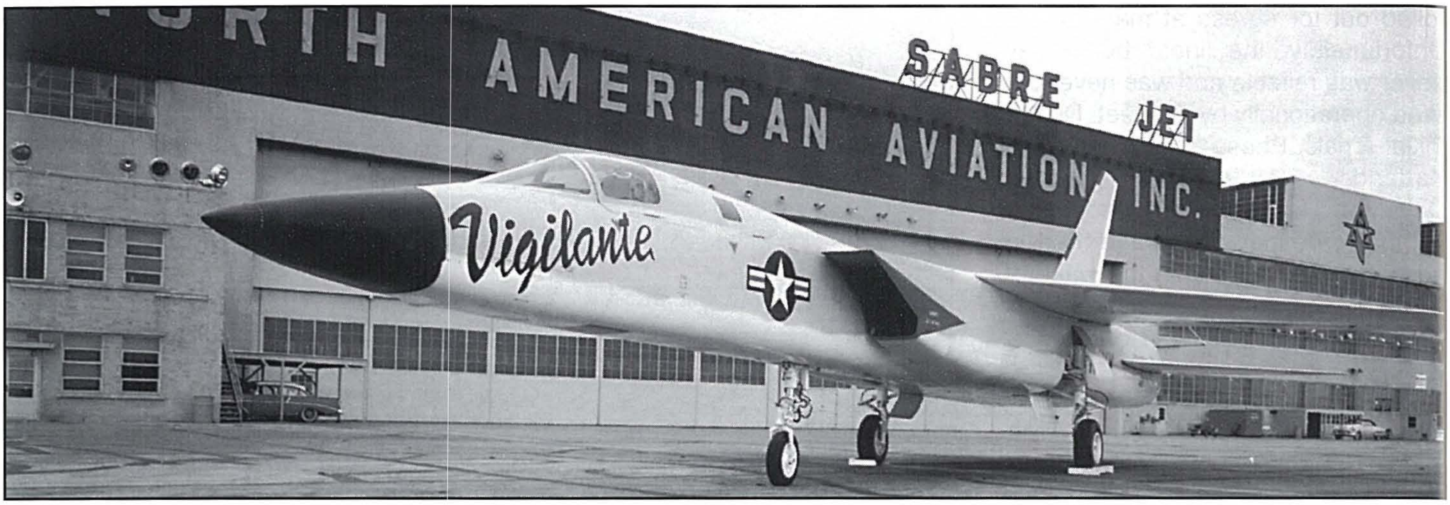


Above and below, YA3J-1 BuNo 145157 in a Columbus hangar on roll-out day, 16 May 1958, with large Vigilante written on the nose. (MFR)

STRUCTURAL PROBLEM:

A structural deficiency was discovered during drop tests being conducted to assess the Vigilante's abili-

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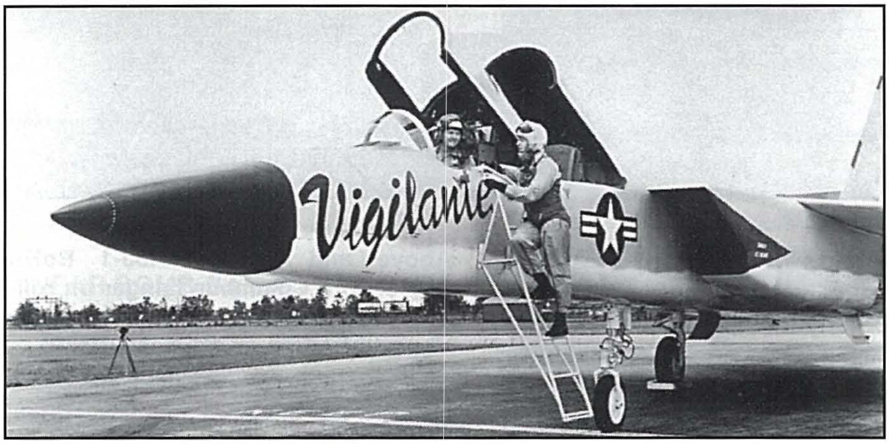

Above, ship one after roll-out in front of the factory. Ship one was easily identifiable as it had a black radome. (MFR) At left, North American St. Louis chief test pilot George Wenzel in the cockpit of the first Vigilante with another company flight crewman on the ladder prior to the first flight. (MFR) Below, ship one with original nose markings shortly after roll-out. (MFR)

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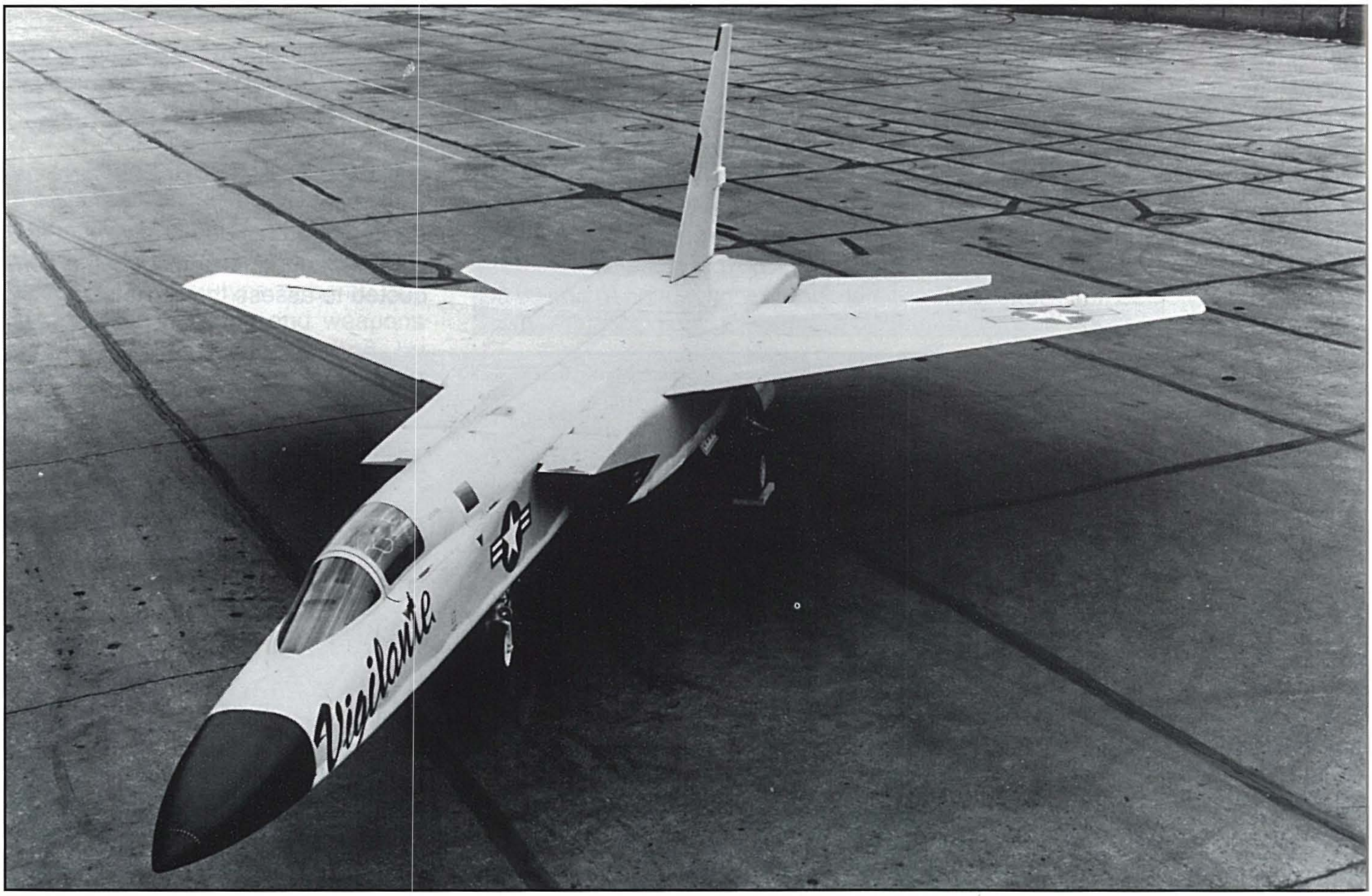
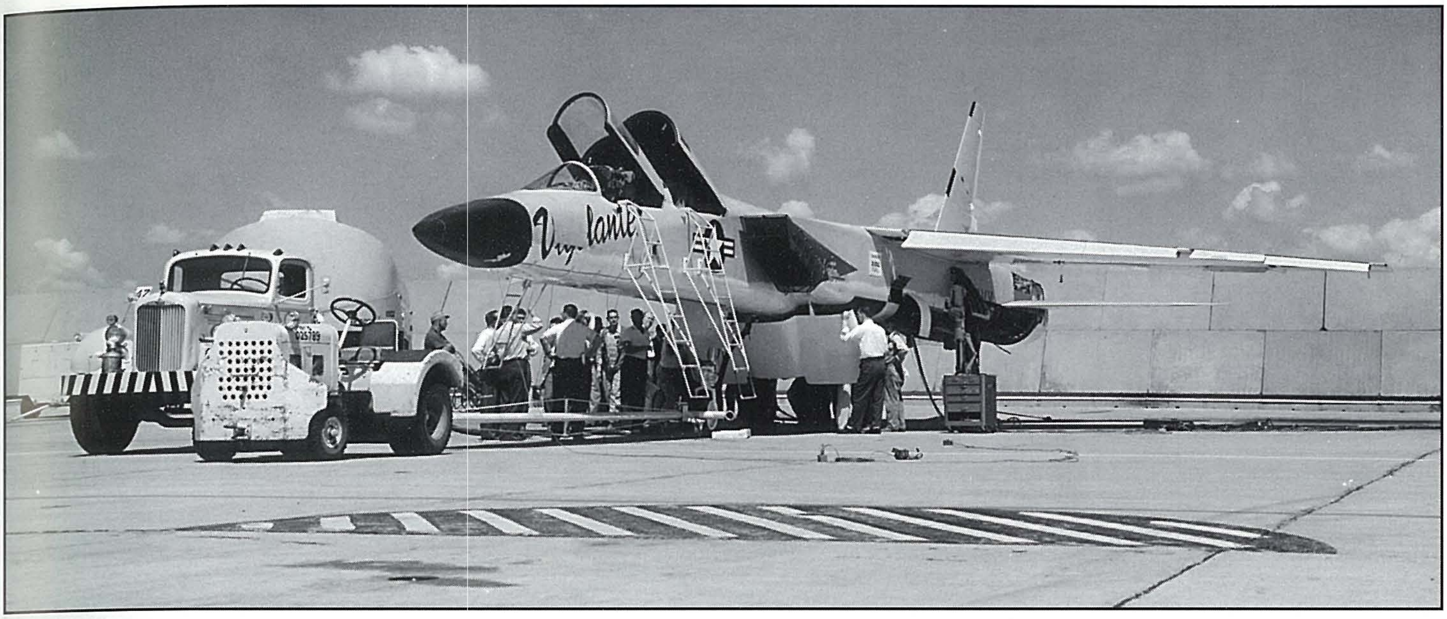
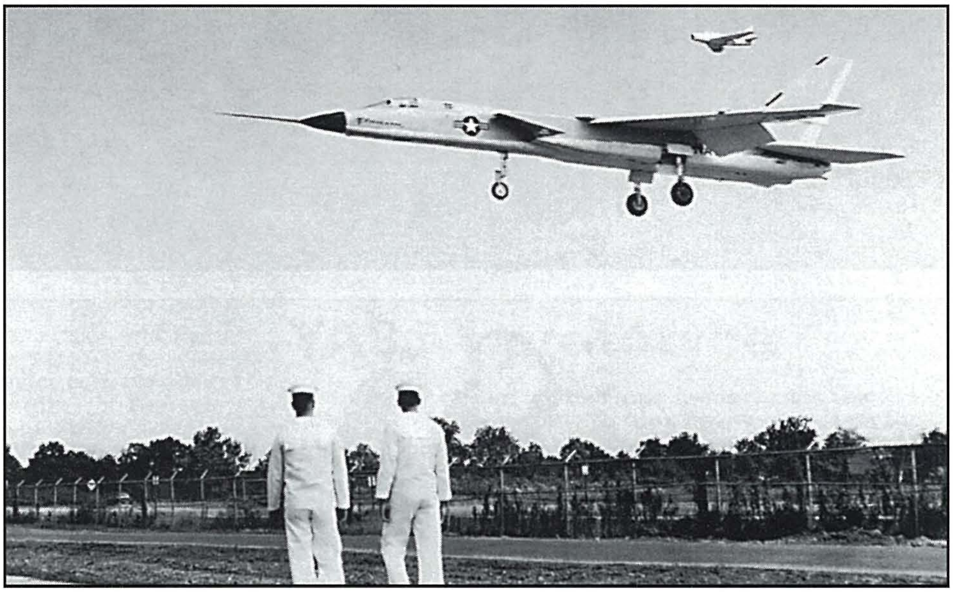
ty to meet the Navy's requirement of a 21 foot-per-second sink rate. The aircraft

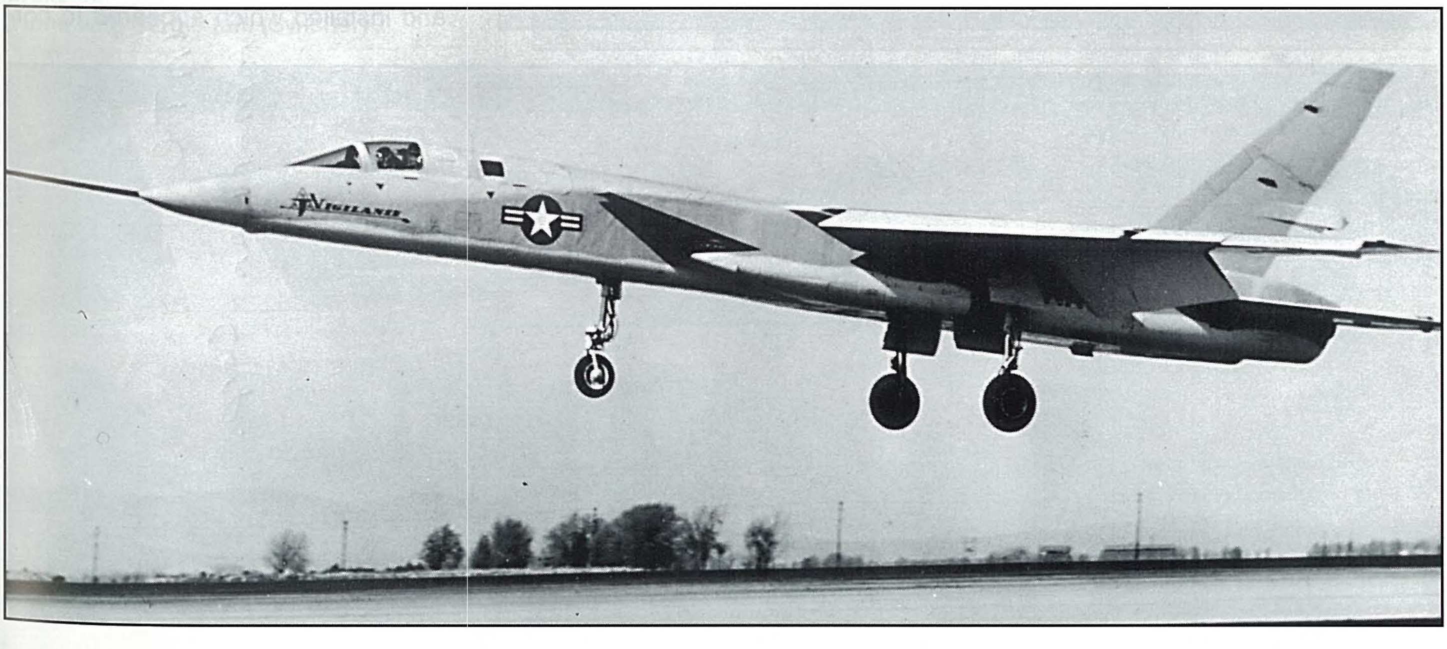


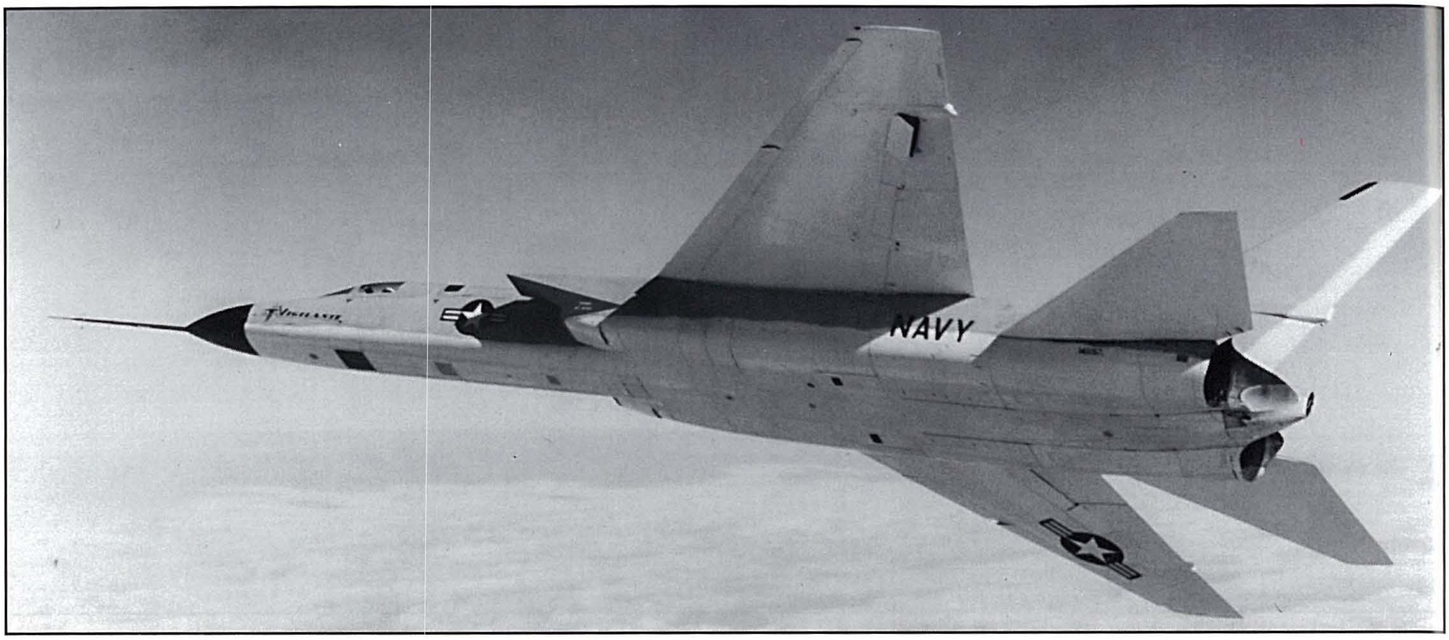


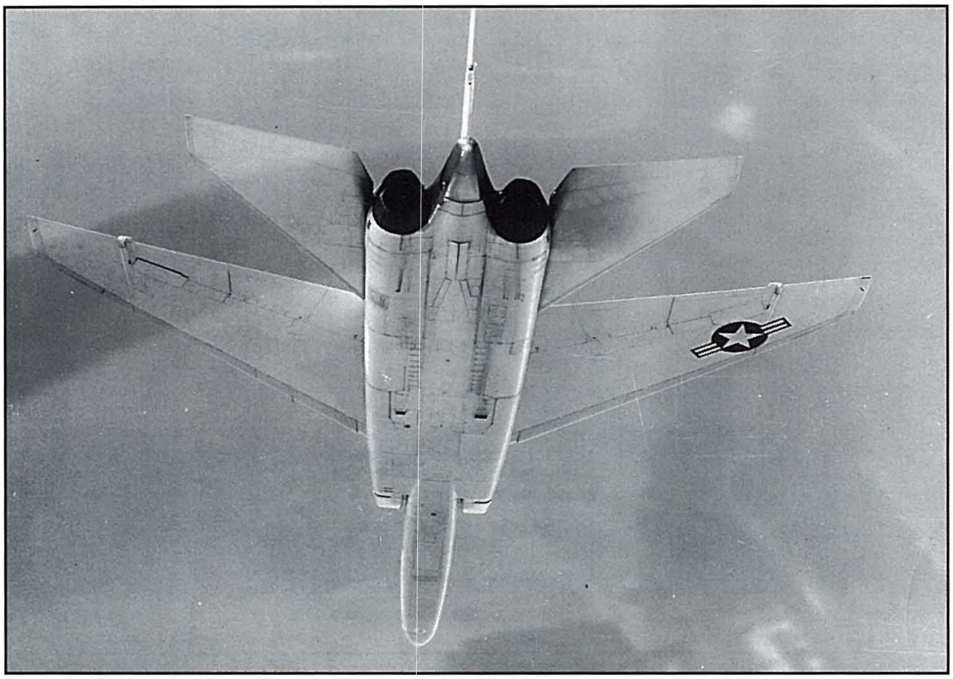
Above, engine test work prior to first flight of ship #1 illustrates massive size of the speed brake below the engines' intakes. (MFR via Craig Kaston) At right, ship #1 returns from its first flight on 31 August 1958 with FJ-4B chase plane above it. (MFR) Below, ship #2, YA3J-1 BuNo 145158, entered the test program in November 1958. (MFR via Craig Kaston)



broke its back just aft of the bomber/navigator compartment during the 17 foot-per-second drop. The structure failed at the longeron attachment fitting, commonly known as the "barrel

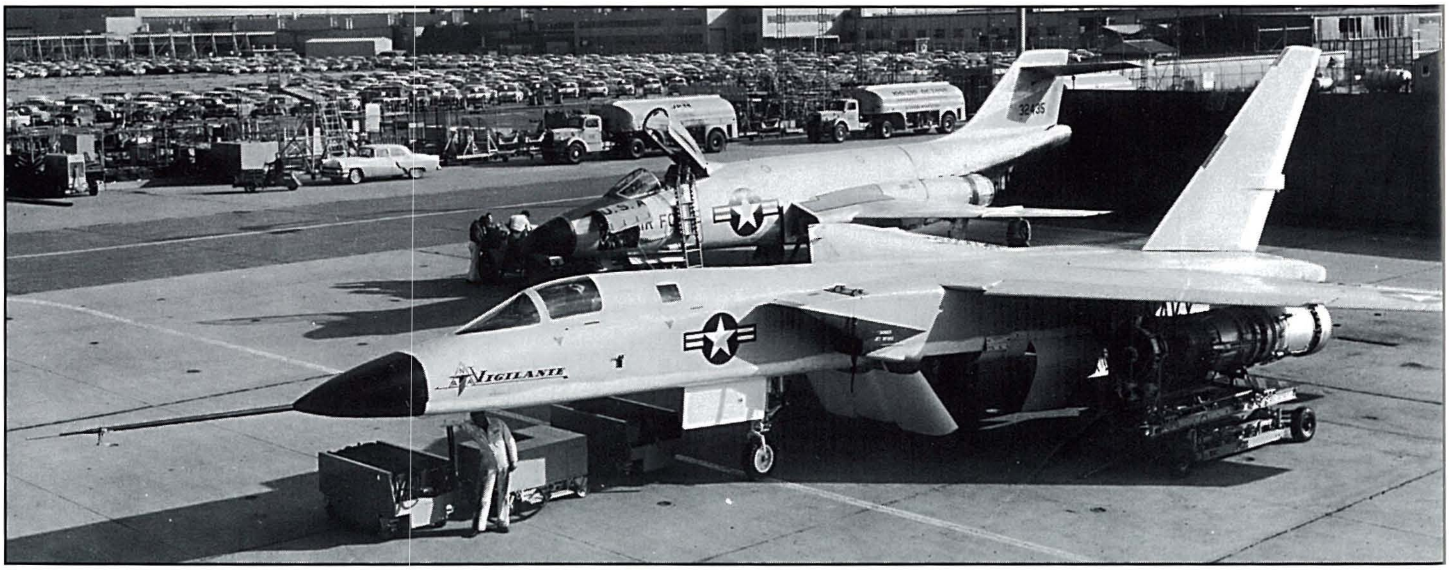


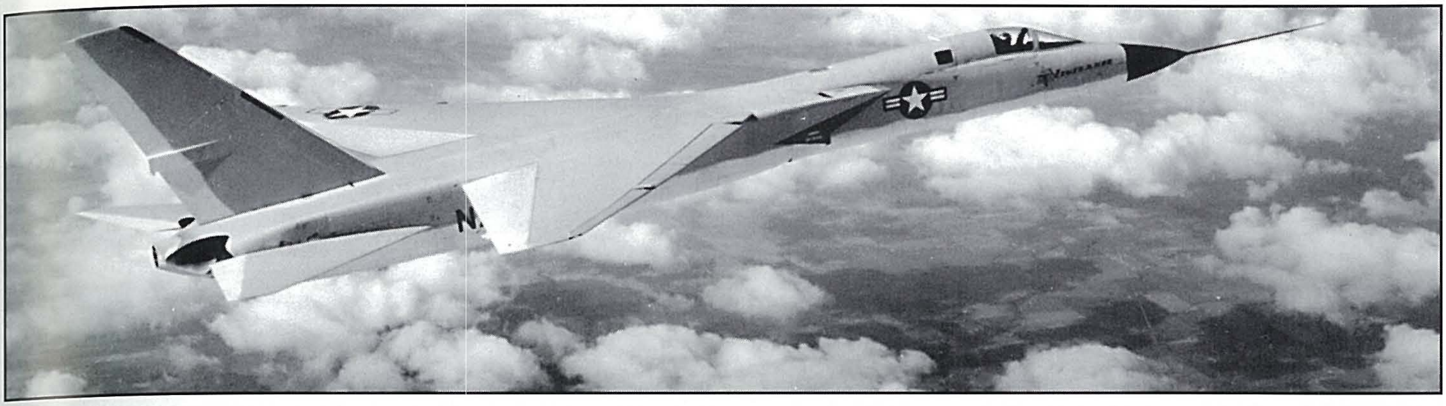




Above, ship #1 in flight illustrates the Vigilante's clean and distinctive lines. During the flight test program, ship #1 and ship #2 wore the North American logo and the stylized Vigilante text seen here. (MFR) At left, underside of A3J-1 BuNo 147851 on 9 January 1961. Note "Y" shaped tailhook doors. (USN) Below, ship #1 sits next to a USAF F-101A while both aircraft were undergoing electronic testing on 4 November 1958. (Autonetics via Craig Kaston)

nut". A fix was made, but at 19 feet-per-second, the structure failed again and the forward fuselage was once again left sitting on the floor. An improved barrel nut was designed and installed which appeared to cor-

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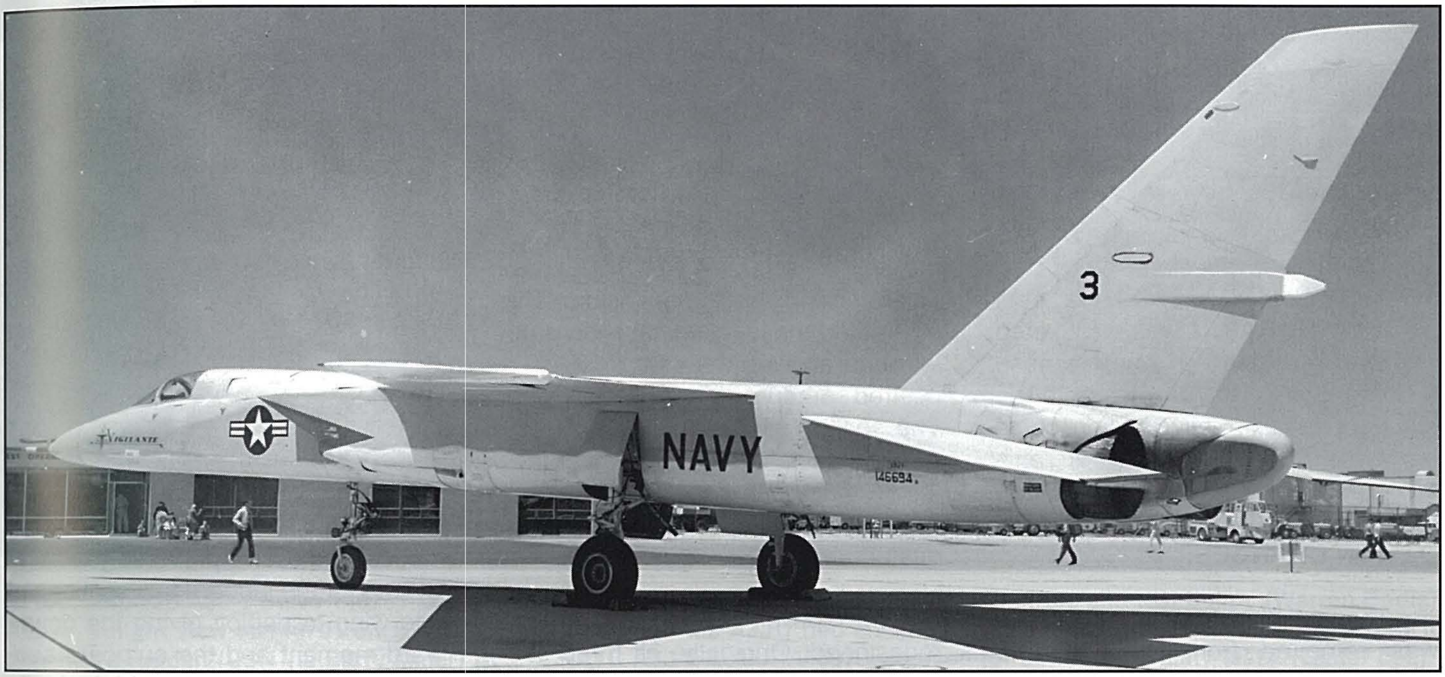
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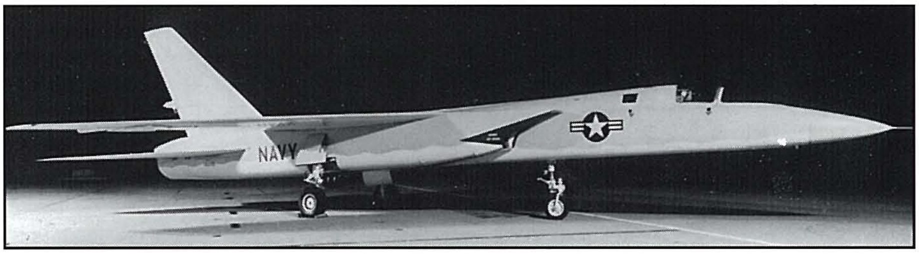
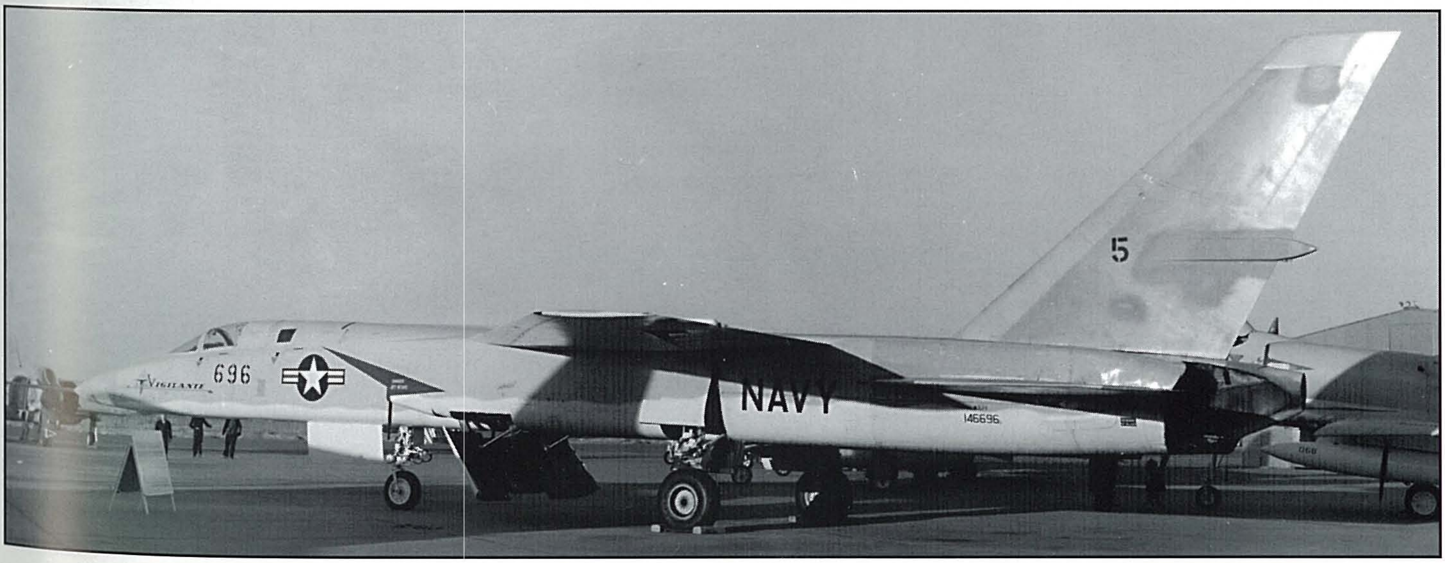
At top, ship #1 could be identified by its black radome. (MFR) Above, ship #3 BuNo 146694 at Edwards AFB on 22 May 1960 with da-glo red tail. (Swisher) At right, ship #4 BuNo 146695 seen at night. (MFR) Below, ship #5 BuNo 146696 with speed brake open on 3 December 1959 at MCAAS Yuma with da-glo tail. (Swisher)

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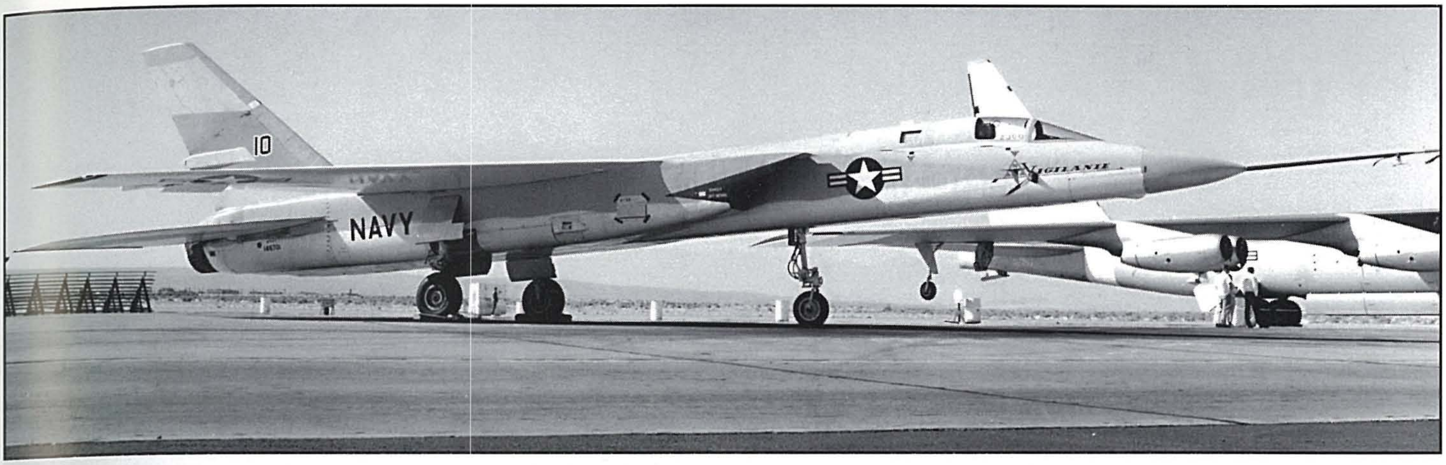
Above, ship #10 A3J-1 BuNo 146701 in natural metal leaves final assembly as it heads to the paint shop. (MFR) Below, A3J-1 (A-5A) production line at Columbus, OH, in March 1962. (MFR)

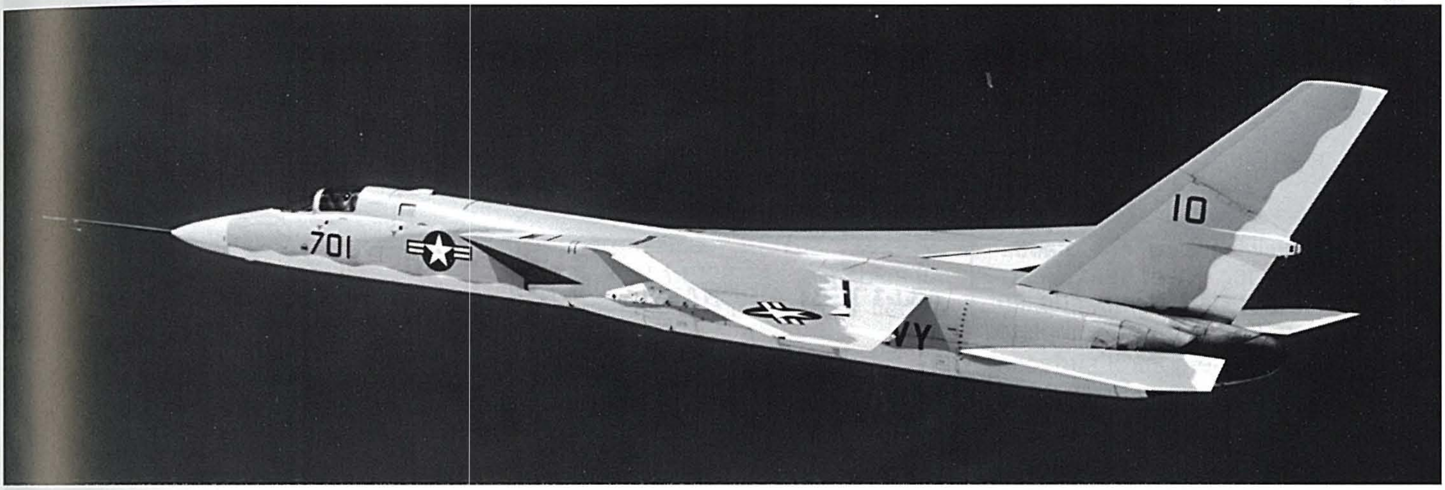
rect the problem. An airframe service change kit was developed and was slowly finding its way to the fleet when a VAH-7 A3J-1 was discovered to have developed a drooped nose section. Kits were then rushed to the squadron so corrective action could be completed prior to the aircraft's first operational carrier deployment.

DESIGN CHANGES:

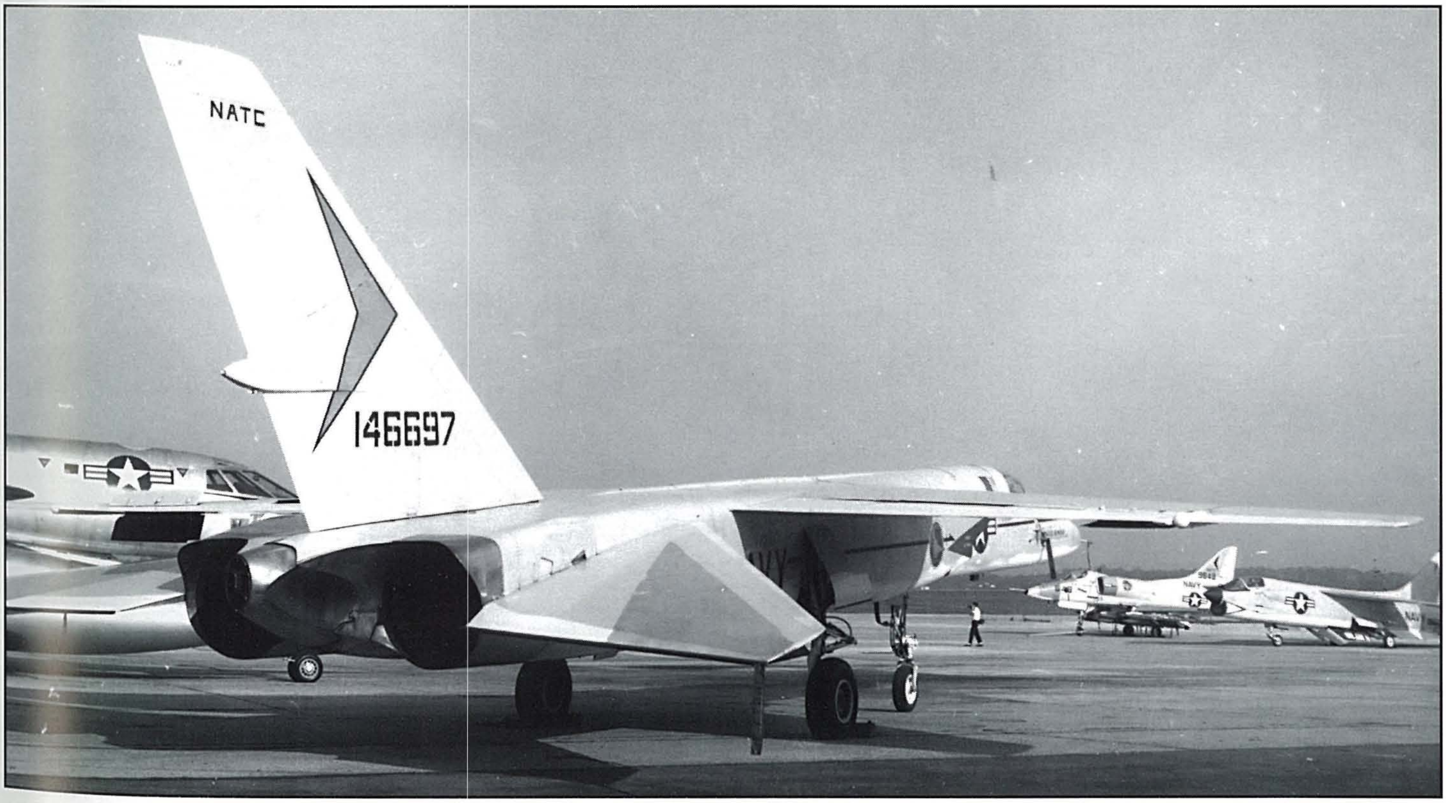
The massive belly speed brake was removed from the Vigilante shortly after the pre-production aircraft were completed. The speed brake was replaced by the use of extended wing spoiler deflectors. This eliminated the longitudinal pitch problem and allowed the pilot to select a desired amount of speed braking. The spoiler deflectors allowed much quicker extension and retraction than the original belly speed brake and offered better control during wave-offs and bolters.

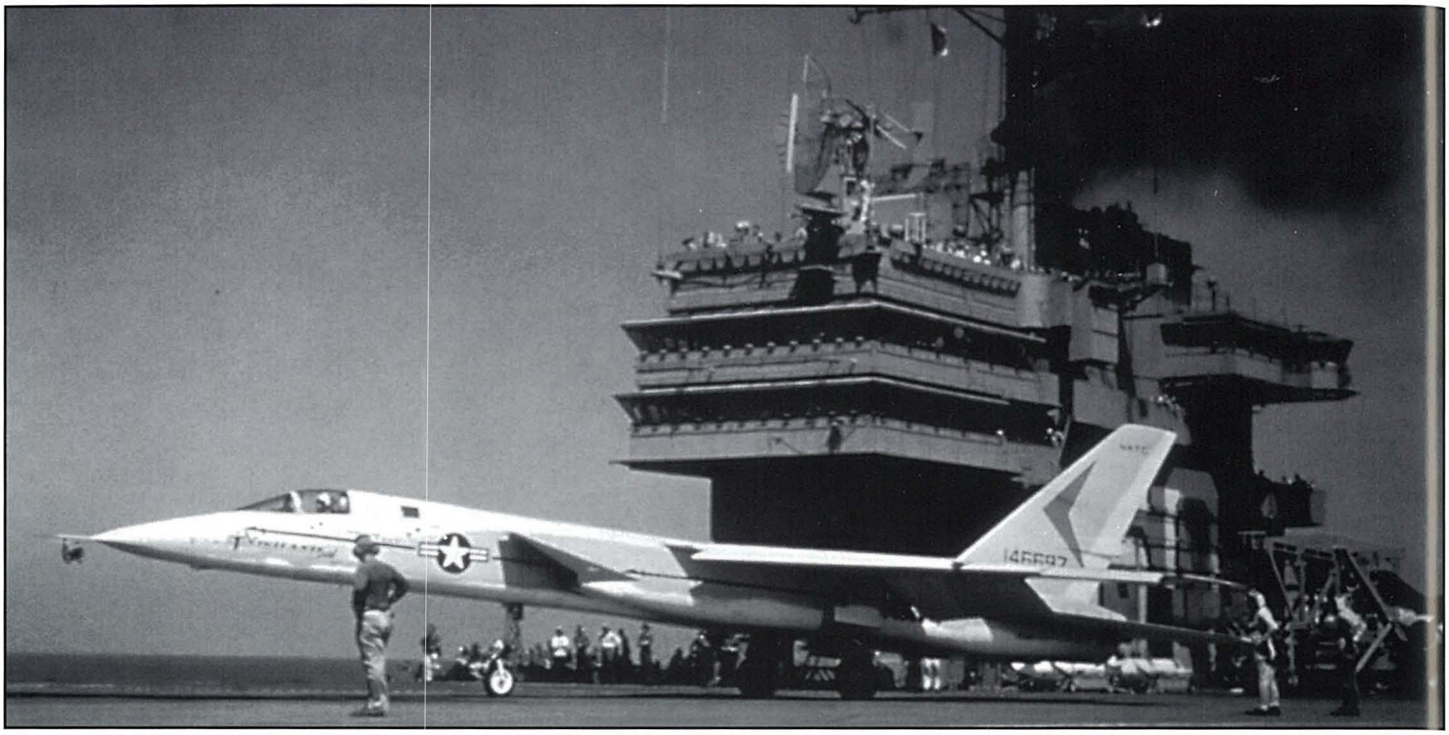
The spoiler deflectors were also redesigned. Originally, all three sections operated in concert on one side or the other giving a downward vector on the inboard wing. This action induced excessive proverse yaw. The fix was for the inboard two sections of one wing to deploy giving the downward moment and the outboard section on the other wing would deploy in





At top, ship #10 A3J-1 BuNo 146701 at Edwards AFB on 21 May 1961 with da-glo red tail stripe and test boom. (Warren Bodie) Above, inflight view of 146701 on 15 March 1962. Although the A3J-1 had an all-flying tail, initial deliveries were painted as if they had a rudder. (USN via Barry Miller) Below, NATC A3J-1 BuNo 146697 was used for carrier suitability tests. (Ginter col.)



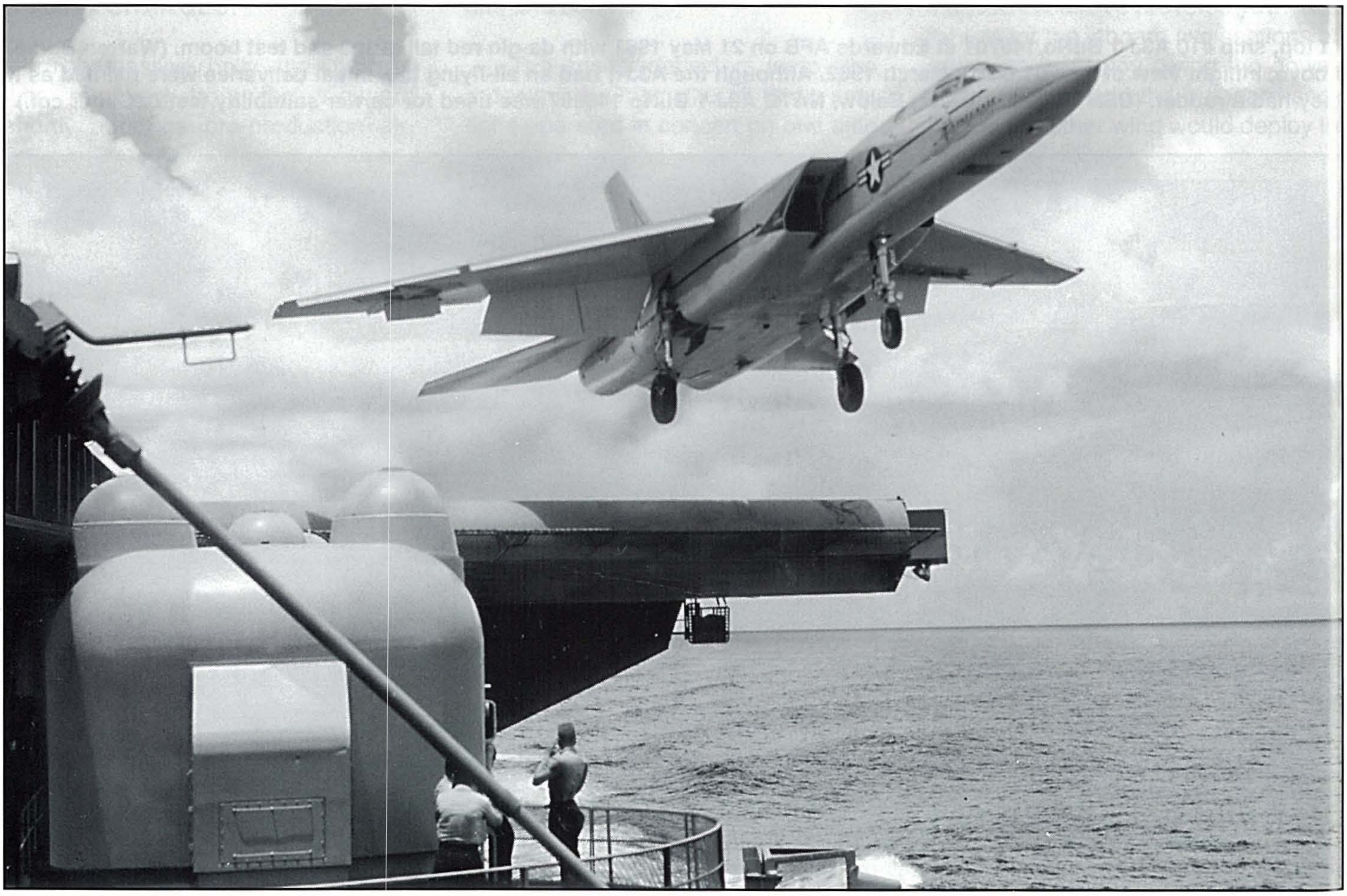


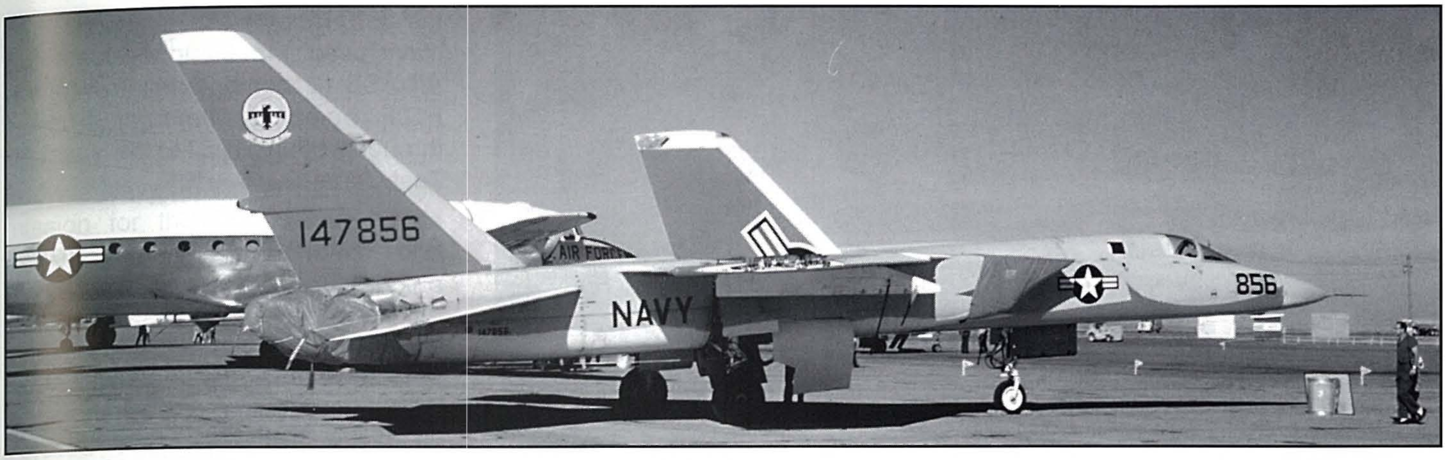
the opposite direction to provide an upward force (for a more complete explanation of these control surfaces see Air Force Legends #203, North American F-107A).

A3J-1 TEST AIRCRAFT:

During the middle of 1959, the first nine A3J-1s became available for flight testing. The aircraft were utilized

Above and below, A3J-1 BuNo 146697 during carrier trials aboard the USS Saratoga (CVA-60) on 22 July 1960. The vertical and horizontal tail trim was orange. The long thin fuselage stripe was dark blue. (USN)

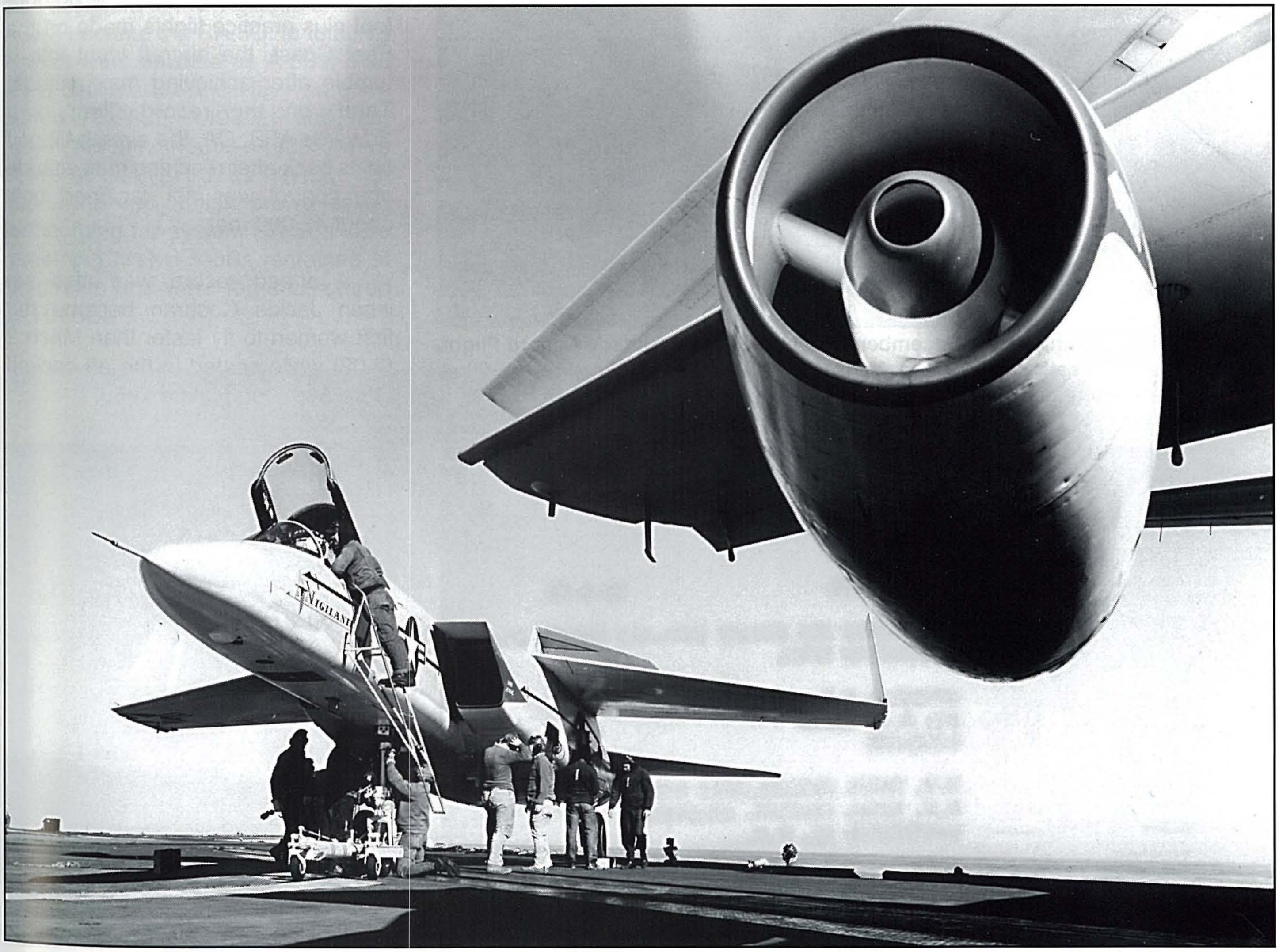




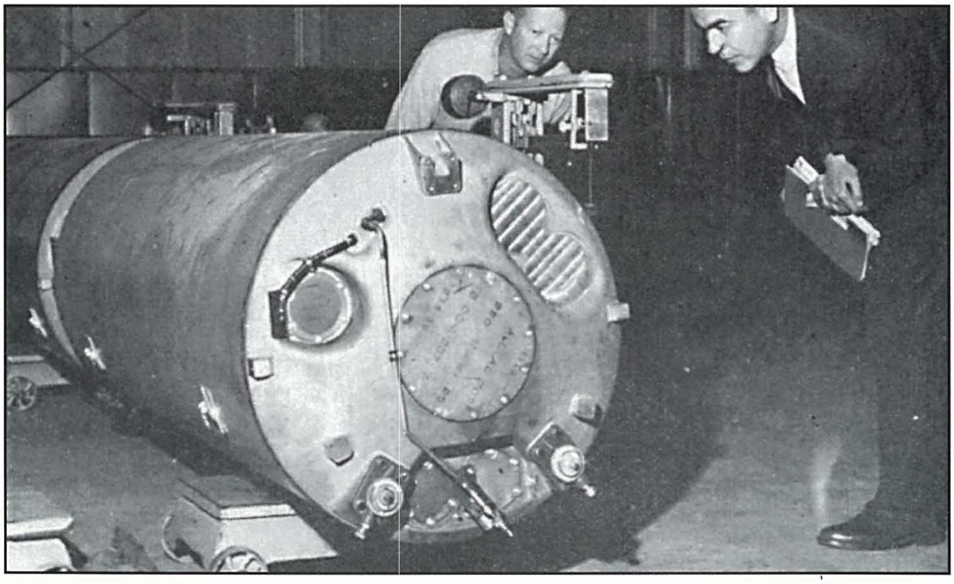
during Navy Preliminary Evaluation (NPE) and Board of Inspection and Survey (BIS) trials as well as numerous weapon system development trials. Carrier suitability tests were conducted by 146697 aboard the USS Saratoga (CVA-60) on 22 July 1960. Fourteen launches and recoveries were made during these tests.

Aircraft from the second and third production batches also joined the testing program for the A3J-1. 147855, 147856 and 147857 were used at NWEF, at Kirtland AFB, NM, for nuclear and conventional weapons release testing. North American utilized 146702, 148932, 149278, and 149281 as test ships for the numerous electronic gear tied to

Above, A3J-1 BuNo 147856 at Kirkland AFB in November 1961 where it was used for weapons delivery tests. Trim was da-glo red. Aircraft was fitted with red canvas intake covers. (Steve Brown) Below, NATC Flight Test (FT) A3J-1 BuNo 146697 conducted a second set of carrier suitability tests aboard the USS Midway (CVA-41) in December 1960. A3D-2 engine and wing at right. (USN via Barry Miller)



Above and below right, the 13 December 1960 NATC World Altitude Record Flight crew CDR Leroy Heath and LT Larry Monroe. (USN) Below, fuel cells were filled with water and weighed to verify 1,000 kilogram weight. (USN)



the F10F bombing computer. The Navy used 146702 to evaluate the AN/ASB-12 bomb director with the F10F bombing computer from 4 through 14 June 1962 at the Naval Air Test Center.

ALTITUDE AND SPEED RECORDS:

On 13 December 1960, an A3J-1 assigned to the Naval Air Test Center set a new altitude record which shattered the record set by the Russians on 13 July 1959. CDR Leroy A. Heath and LT Larry Monroe achieved an altitude of 91,450.8 feet while carrying a 1,000 kilogram (2,204.62 pound) payload. This was a 24,354 foot increase over the Russian record. For the achievement, CDR Heath received the Distinguished Flying Cross and LT Monroe received the Air Medal.

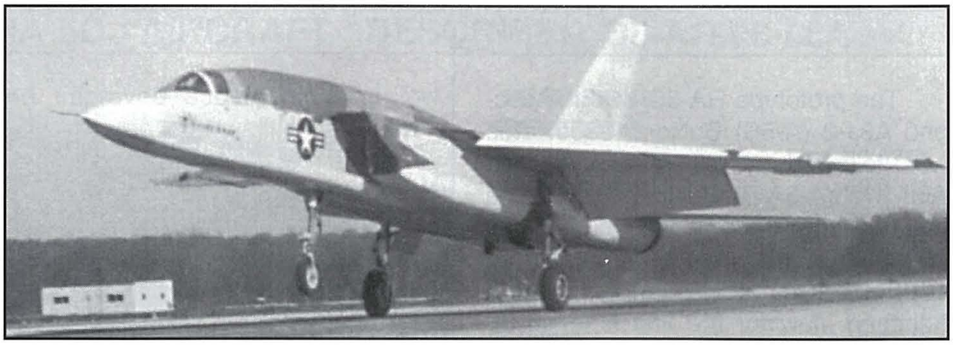
The practice flights and record flight were not without danger and excitement. During one of the 80,000-foot-plus practice flights made on the East Coast, the aircraft went into a tumble after achieving max altitude. Then, on the record flight over Edwards AFB, CA, the aircraft flipped on its back after reaching max altitude and control was not regained until about 42,000 feet.

A speed record was also set when Jackie Cochran became the first women to fly faster than Mach 2 (2.02) while seated in the aft cockpit of an A3J-1 on 6 June 1960.

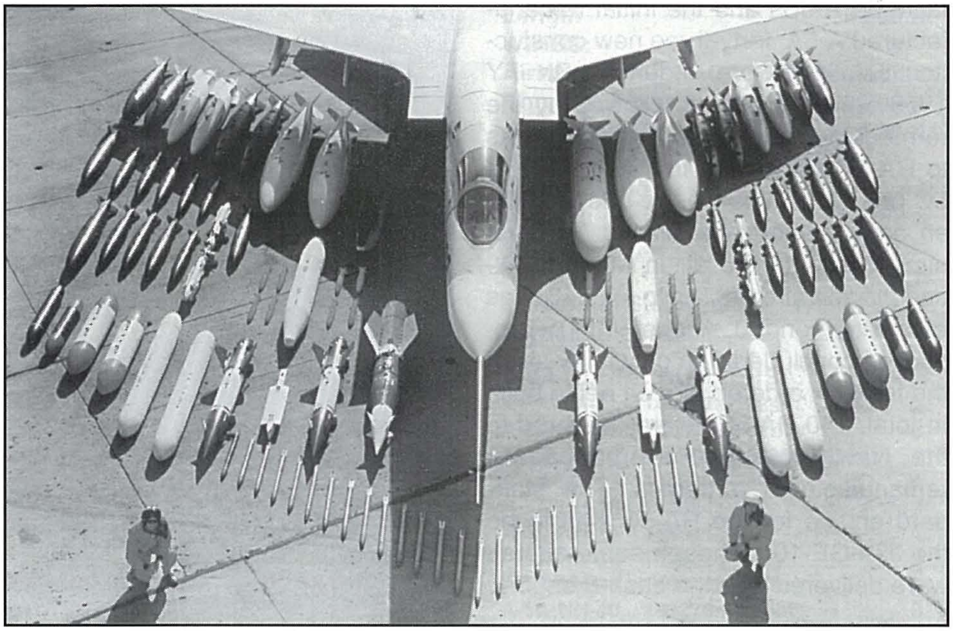
A3J-2 / A-5B

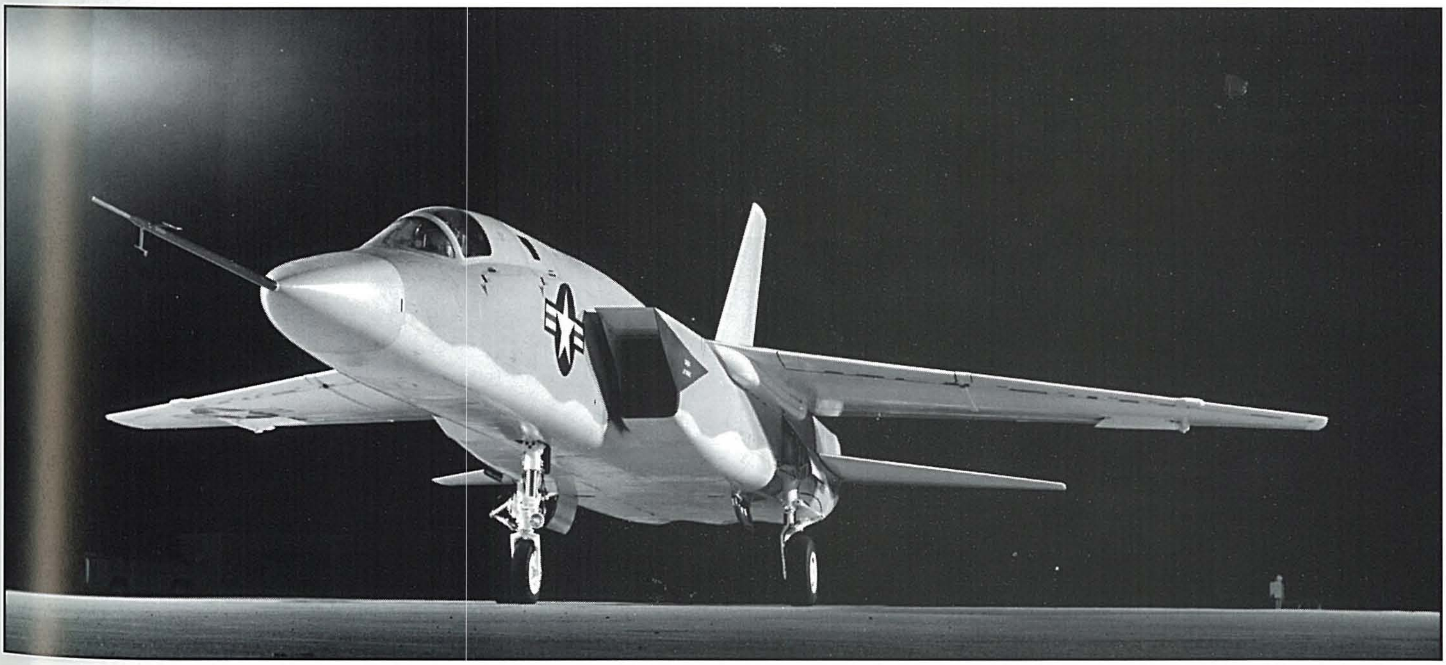
In 1960-61, the Navy gave up its carrier-based strategic nuclear weapons role and North American and the Navy no longer had a viable mission for the A3J-1. Due to its tremendous speed performance and accurate external stores dropping ability, a case was made for the Vigilante's existence as a high speed, low altitude bomber. The new aircraft would be the A3J-2 (A-5B) and incorporated increased fuel load, increased external weapons capabilities, blown leading-edge flaps, an increase in trailing edge flap span and chord, increased engine intake duct capture area and increased performance J79-GE-8 engines.

Before the first A3J-2, BuNo 149300, made its first flight on 29 April 1962, the A3J-3 was authorized for production. A new mission as a high speed reconnaissance aircraft was assigned to the Vigilante and the A3J-3 became the RA-5C. In total, 18 aircraft were finished as A-5Bs. Two were delivered to the Navy as completed (149300, 149302) and four more (149301, 149303-149305) were delivered to VAH-3 as YA-5Cs for interim training of flight crews for the forthcoming full-system RA-5Cs. The remaining twelve A-5Bs remained at Columbus and were remanufactured as RA-5Cs.



Above, A3J-1 BuNo 146694 was used as the A3J-2/A-5B prototype for testing the aircraft's humpback modification which housed the increased fuel load. The test aircraft had no second cockpit windows. (MFR) Below, the second A3J-2/A-5B prototype BuNo 146699 was fitted with all modifications including the four underwing pylons capable of 2,000 lbs each. (MFR) Bottom, A3J-2/A-5B BuNo 146699 illustrates underwing fairing that carried the plumbing for the wing's leading edge bleed air. This fairing was deleted on the RA-5C and the plumbing was internal.

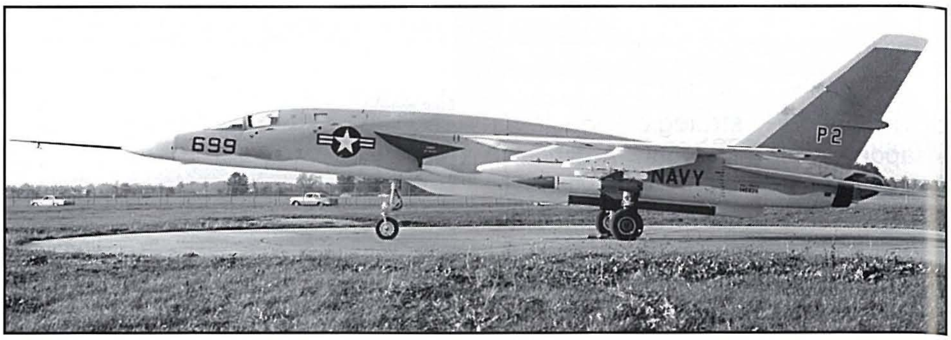


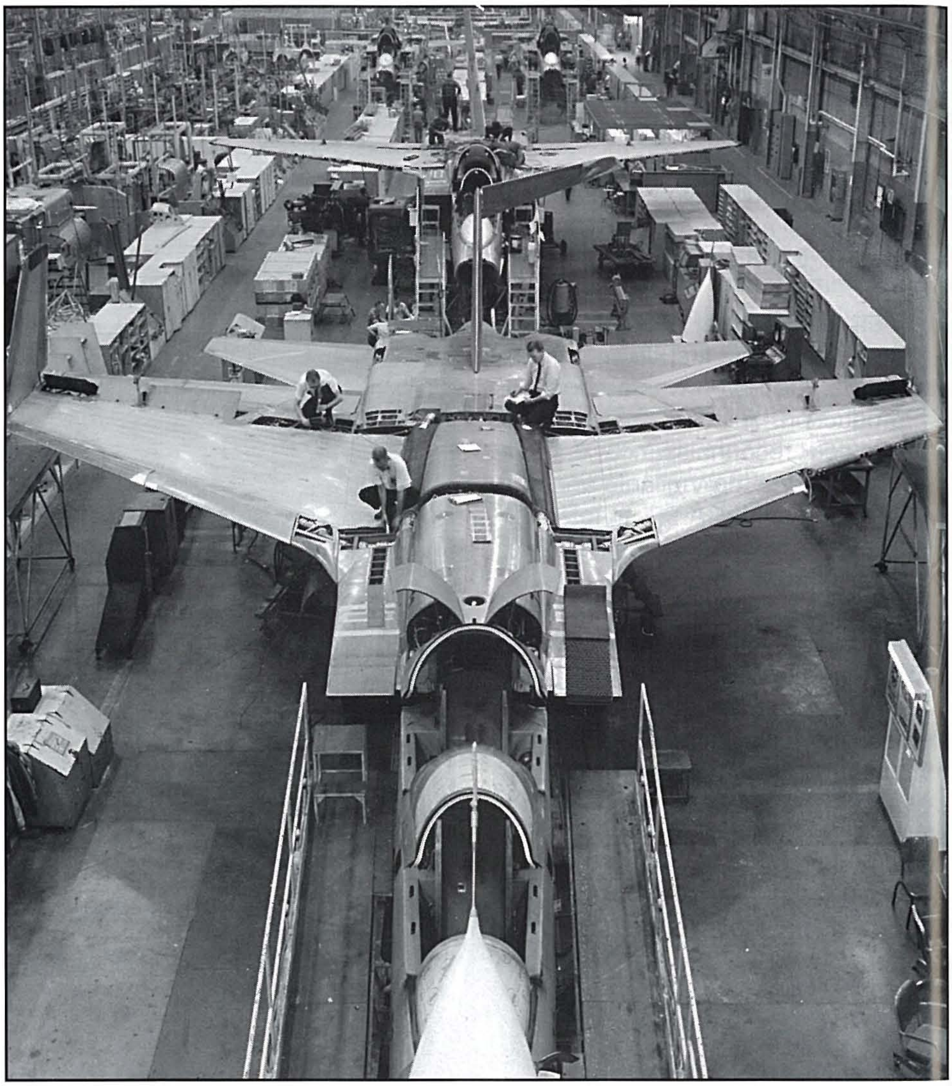


A3J-3 / RA-5C

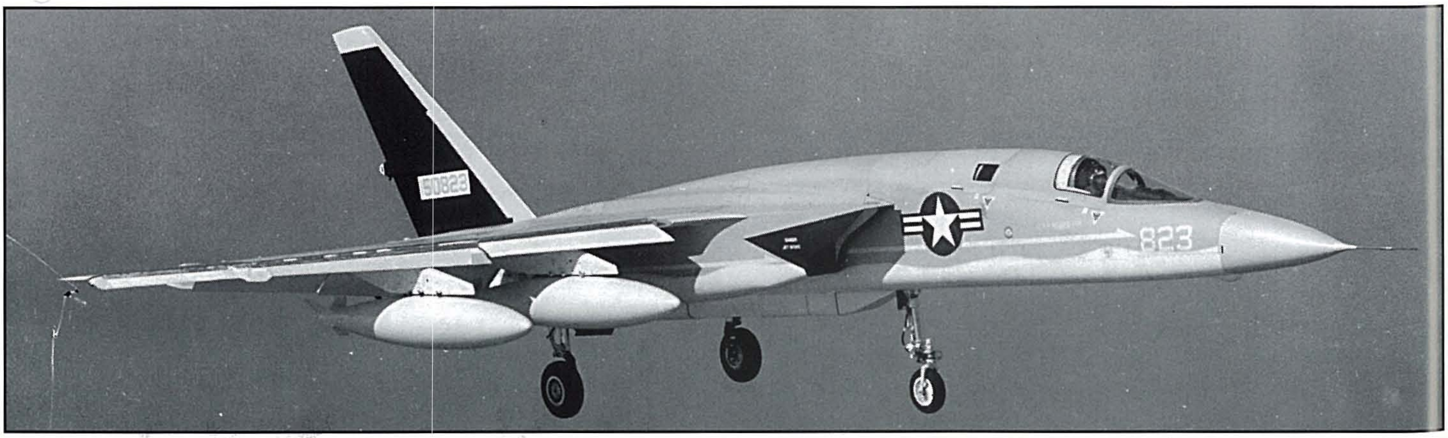
The prototype RA-5C was the second A3J-2 (A-5B) BuNo 149300. This was followed by the remanufactured A3J-1/-2 (A-5A/B) BuNo 146699. The first newly-built RA-5C was to be BuNo 150823. Ship #1, the remanufactured 149300 with the ventral canoe attached, flew for the first time on 30 June 1962. After initial flight tests were concluded, the aircraft was transferred to the Naval Ordnance Test Station (NOTS) China Lake, CA, for full electronic and reconnaissance system testing.

In addition to the eighteen remanufactured A-5Bs and the initial remanufactured A-5A, forty-three new constuction RA-5Cs were ordered with FY 1963 funds. This was followed by the re-manufacturing of forty-three A-5As to RA-5C standards. In 1968, the RA-5C production line was re-opened with an order for forty-six aircraft. The first aircraft took to the air in March 1969 and the last aircraft, BuNo 156643, was completed on 10 August 1970. Production concluded with only thirty-six of the forty-six ordered aircraft being built. In total, 140 RA-5Cs were delivered to the Navy from newly produced or remanufactured airframes. The standard engine for the RA-5C was to be the J79-GE-10, although some aircraft were delivered with the dash-8 engine.





At top, A-5A cum A-5B prototype cum RA-5C prototype #2 BuNo 146699 during weapons loading. (MFR) At right, RA-5C production line. (MFR) Below, first production RA-5C BuNo 150823 during slow flight trials. (MFR)



A-5A / RA-5C AIRCRAFT DESCRIBED

The A3J-1A-5A was a two-place, twin-engine attack aircraft designed for carrier and land-based operations. It was capable of supersonic high and low-altitude special and conventional weapons delivery. The RA-5C version retained the ability to deliver special and conventional weapons in addition to its reconnaissance mission.

The aircraft was characterized by a long slender nose section, tricycle landing gear, clamshell canopies, a sharply swept, shoulder-mounted wing, a tall vertical stabilizer, and large rectangular air intakes. The RA-5C fuselage featured a dorsal hump. The vertical stabilizer, the wings, and the radome could be folded to facilitate hangar deck storage. The wing, inboard of the fold, was designed and constructed as a multi-cell wet wing, with the skin on the panels precision-machined and sealed to form an integral fuel cell. In the RA-5C an over-wing fuel cell was added in the dorsal hump. Lateral control was provided by a system of spoiler-deflectors which were also used as speed brakes.

Provisions were incorporated for both internal and external weapons carriage and release. The A-5A had two underwing stores stations and the RA-5C had four. All-weather attack was handled by the bomb directing set and utilized automatic flight control. The flight control systems provided improved supersonic and low-speed handling qualities through a pitch augmentation system and a yaw damper. On the A-5A, landing speeds and angle-of-attack were reduced by full-span, powered droopable leading edges and a wing flap surface boundry layer control system. On the RA-5C the full-span droopable leading edges incorporated a boundary layer airflow control system and the flaps became slotted full-span units extending from the fuselage to the wing fold line.

The empennage consisted of the vertical and horizontal stabilizers which were of one-piece, slab-type construction. Hydraulically actuated for directional and longitudinal control, the "Flying tail" eliminated the rudder and elevators. During normal actuation of the flight controls for pitch control, the horizontal stabilizer operated as one unit. For trimming the aircraft laterally, each surface of the horizontal stabilizer operated independently.

DIMENSIONS

GENERAL:	
Span	**53.07 ft.**
Span (folded)	**42.00 ft.**
Length	**72.45 ft.**
Length RA-5C	**76.60 ft.**
Length (folded)	**65.85 ft.**
Length (folded) RA-5C	**67.60 ft.**
Height	**19.40 ft.**
Height (folded)	**15.60 ft.**
Track Length	**20.68 ft.**
Track Width	**11.62 ft.**
HORIZONTAL STABILIZER:	
SPAN	**30.65 ft.**
Maximum Chord	**13.94 ft.**
FUSELAGE:	
Max Width	**10.66 ft.**
Max Height	**5.25 ft.**
Length	**69.00 ft.**
WINGS:	
Airfoil Section NACA 65A005 modified	
Chord at Root	**22.05 ft.**
Chord near Tip	**4.38 ft.**
Sweepback at 25% Chord 37.5°	
Aspect Ratio	**4.0**
AREAS:	
Wings	**700.0 sq. ft.**
Flaps	**69.2 sq. ft.**
Horizontal Stabilizers	**171.94 sq. ft.**
Vertical Stabilizer	**101.0 sq. ft.**

PRODUCTION DETAILS:

TYPE	BuNos	QTY	MSN
YA-3J/YA-5A	145157-158	2	247-1/2
A3J-1/A-5A	146694-702	9	247-3/11
	147850-863	14	263-1/14
	148924-933	10	269-1/10
	149276-299	24	269-11/34
A3J-2/A-5B	149300-317	18	269-35/52
149300 & 149302 delivered as A-5Bs, 149301, 149303-305 delivered as YA-5Cs,149306-317 delivered as RA-5Cs.			
RA-5C	150823-842	20	279-1/20
	151615-634	20	283-21/40
	151726-728	3	283-41/43
	156608-643	36	316-1/36
Total Production		156	

A-5A BLOCK NUMBERS:

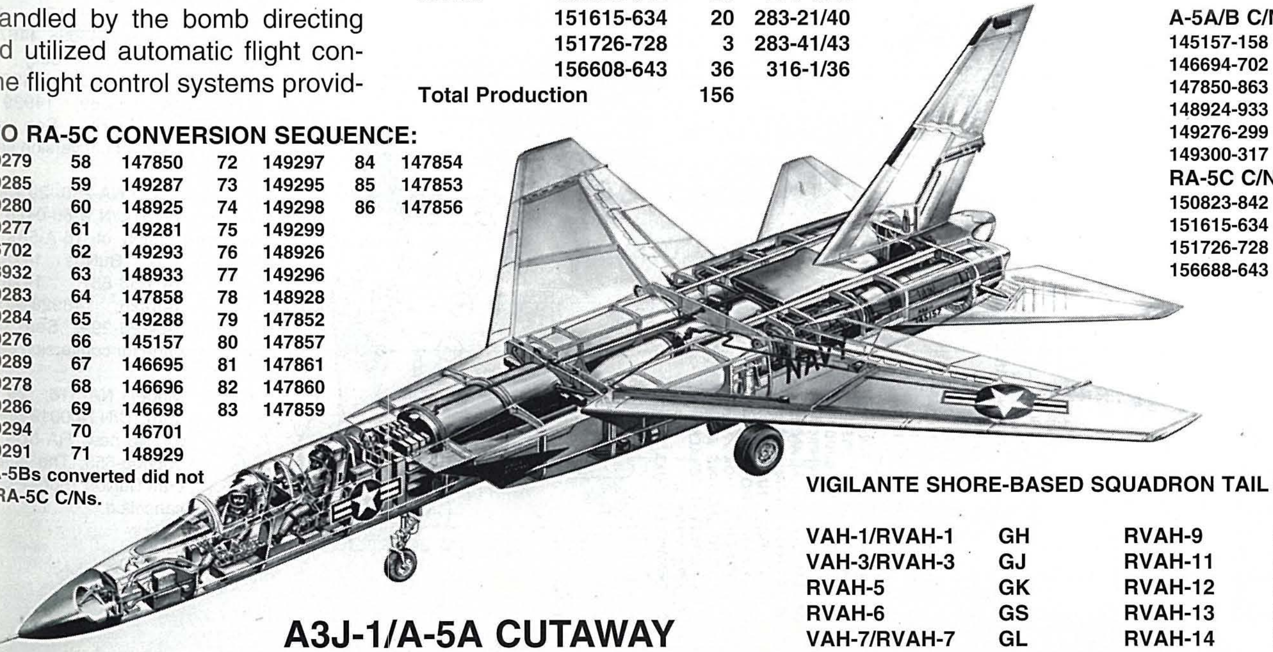
A-5A-NH-1	145157a-158a	2
A-5A-NH-5	146694b-701b	8
A-5A-NH-10	146702c,147850c-859c	11
A-5A-NH-15	147860d-863d	4
A-5A-NH-20	148924e-930e	7
A-5A-NH-25	148931f	1
A-5A-NH-30	148932g-933g	2
A-5A-NH-35	149276h-277h	2
A-5A-NH-40	149278m-285m	8
A-5A-NH-45	149286n-299n	14

A-5A/B C/Ns	
145157-158	1-2
146694-702	3-11
147850-863	12-25
148924-933	26-35
149276-299	36-59
149300-317	60-77
RA-5C C/Ns	
150823-842	1-20
151615-634	21-40
151726-728	41-43
156688-643	87-122

A-5A TO RA-5C CONVERSION SEQUENCE:

44	149279	58	147850	72	149297	84	147854
45	149285	59	149287	73	149295	85	147853
46	149280	60	148925	74	149298	86	147856
47	149277	61	149281	75	149299		
48	146702	62	149293	76	148926		
49	148932	63	148933	77	149296		
50	149283	64	147858	78	148928		
51	149284	65	149288	79	147852		
52	149276	66	145157	80	147857		
53	149289	67	146695	81	147861		
54	149278	68	146696	82	147860		
55	149286	69	146698	83	147859		
56	149294	70	146701				
57	149291	71	148929				

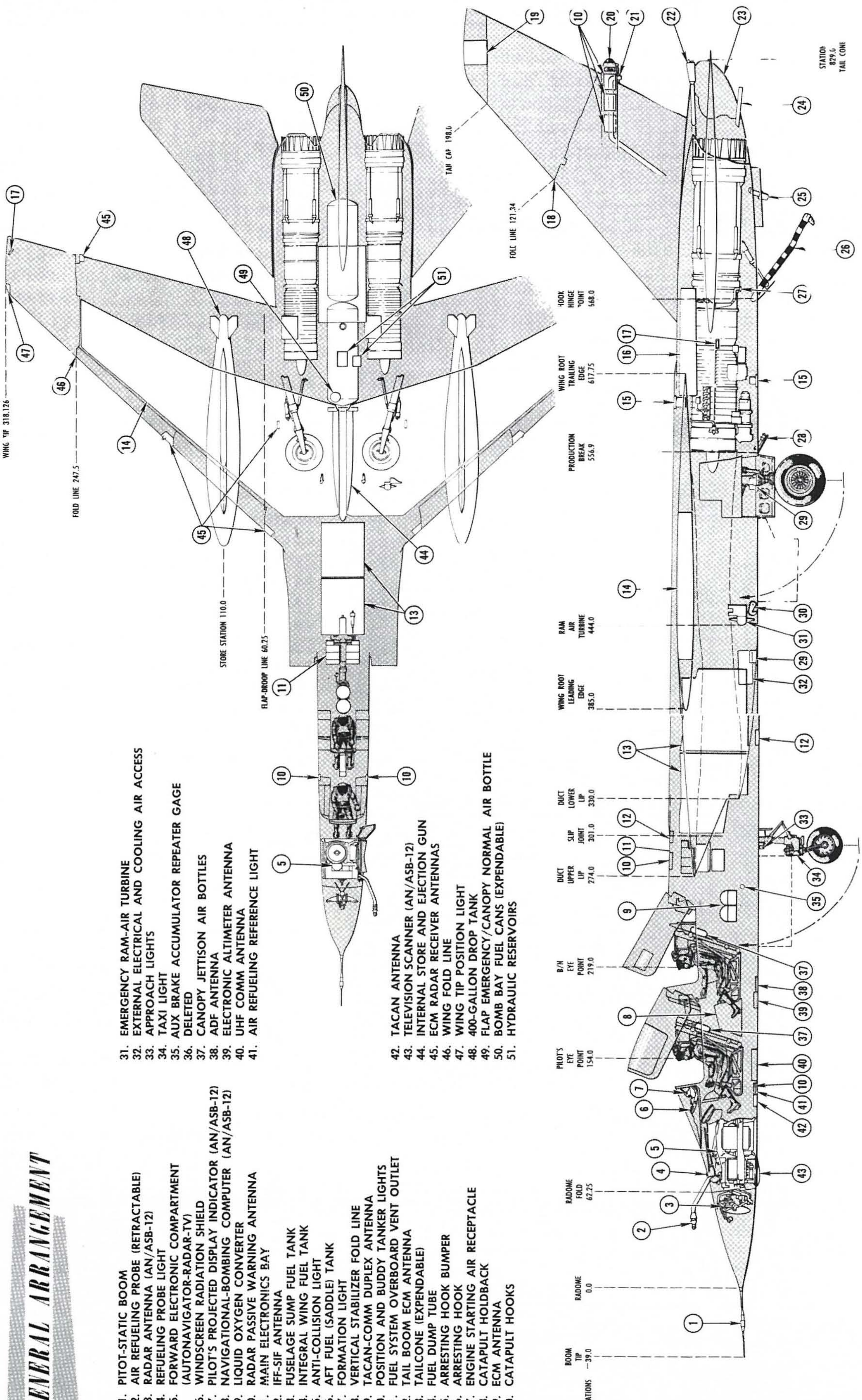
The 18 A-5Bs converted did not receive RA-5C C/Ns.



A3J-1/A-5A CUTAWAY

VIGILANTE SHORE-BASED SQUADRON TAIL CODES

VAH-1/RVAH-1	GH	RVAH-9	GM
VAH-3/RVAH-3	GJ	RVAH-11	GN
RVAH-5	GK	RVAH-12	GP
RVAH-6	GS	RVAH-13	GR
VAH-7/RVAH-7	GL	RVAH-14	GQ


STATIONS
BOOM TIP -39.0
RADOME 0.0
RADOME FOLD 62.25
PILOT'S EYE POINT 154.0
B/N EYE POINT 219.0
DUCT UPPER LIP 274.0
SLIP JOINT 301.0
DUCT LOWER LIP 330.0
WING ROOT LEADING EDGE 385.0
RAM AIR TURBINE 444.0
PRODUCTION BREAK 556.9
WING ROOT TRAILING EDGE 617.75
HOOK HINGE POINT 568.0
STATION 829.6 TAIL CONE
FOLD LINE 121.34
TAIL CAP 198.0
WING TIP 318.126
FOLD LINE 247.5
STORE STATION 110.0
FLAP-DROOP LINE 60.25

GENERAL ARRANGEMENT

1. PITOT-STATIC BOOM
2. AIR REFUELING PROBE (RETRACTABLE)
3. RADAR ANTENNA (AN/ASB-12)
4. REFUELING PROBE LIGHT
5. FORWARD ELECTRONIC COMPARTMENT (AUTONAVIGATOR-RADAR-TV)
6. WINDSCREEN RADIATION SHIELD
7. PILOT'S PROJECTED DISPLAY INDICATOR (AN/ASB-12)
8. NAVIGATIONAL-BOMBING COMPUTER (AN/ASB-12)
9. LIQUID OXYGEN CONVERTER
10. RADAR PASSIVE WARNING ANTENNA
11. MAIN ELECTRONICS BAY
12. IFF-SIF ANTENNA
13. FUSELAGE SUMP FUEL TANK
14. INTEGRAL WING FUEL TANK
15. ANTI-COLLISION LIGHT
16. AFT FUEL (SADDLE) TANK
17. FORMATION LIGHT
18. VERTICAL STABILIZER FOLD LINE
19. TACAN-COMM DUPLEX ANTENNA
20. POSITION AND BUDDY TANKER LIGHTS
21. FUEL SYSTEM OVERBOARD VENT OUTLET
22. TAIL BOOM ECM ANTENNA
23. TAILCONE (EXPENDABLE)
24. FUEL DUMP TUBE
25. ARRESTING HOOK BUMPER
26. ARRESTING HOOK
27. ENGINE STARTING AIR RECEPTACLE
28. CATAPULT HOLDBACK
29. ECM ANTENNA
30. CATAPULT HOOKS
31. EMERGENCY RAM-AIR TURBINE
32. EXTERNAL ELECTRICAL AND COOLING AIR ACCESS
33. APPROACH LIGHTS
34. TAXI LIGHT
35. AUX BRAKE ACCUMULATOR REPEATER GAGE
36. DELETED
37. CANOPY JETTISON AIR BOTTLES
38. ADF ANTENNA
39. ELECTRONIC ALTIMETER ANTENNA
40. UHF COMM ANTENNA
41. AIR REFUELING REFERENCE LIGHT
42. TACAN ANTENNA
43. TELEVISION SCANNER (AN/ASB-12)
44. INTERNAL STORE AND EJECTION GUN
45. ECM RADAR RECEIVER ANTENNAS
46. WING FOLD LINE
47. WING TIP POSITION LIGHT
48. 400-GALLON DROP TANK
49. FLAP EMERGENCY/CANOPY NORMAL AIR BOTTLE
50. BOMB BAY FUEL CANS (EXPENDABLE)
51. HYDRAULIC RESERVOIRS

VIGILANTE CONTRACTS

Model NA-233: 18 July 1955, C/N a(s)-55-901-d, NAGPAW Phase 1, A3J-1 design/mock-up engineering

Model NA-247: 30 April 1956, C/N a(s)-56-978-c, NAGPAW Phase 2, 2-YA-3J-1s BuNos 145157-158 and 9-A3J-1 pre-production BuNos 146694-702

Model NA-258: 3 October 1957, additional NAGPAW Phase 2 funds

Model NA-263: 1 January 1959, C/N a(s)-59-0152 for 14-A3J-1s BuNos 147850-147863

Model NA-269: 16 November 1959, C/N a(s)-60-0147-r for 10-A3J-1 aircraft from 1960 funds BuNos 148924-933 and 42-A3J-1s from 1961 funds BuNos 149276-317. Contract changed for BuNos 149300-317 to be built as A3J-2s.

Model NA-272: 13 April 1960, for 7-A3J-1s from 1961 funds. Order cancelled and funds transferred to NA-269 for A-5B conversion program
Model NA-279: 1 December 1961, C/N w(A)-61-0751-i for 20-RA-5Cs for fiscal 1962, BuNos 150823-842

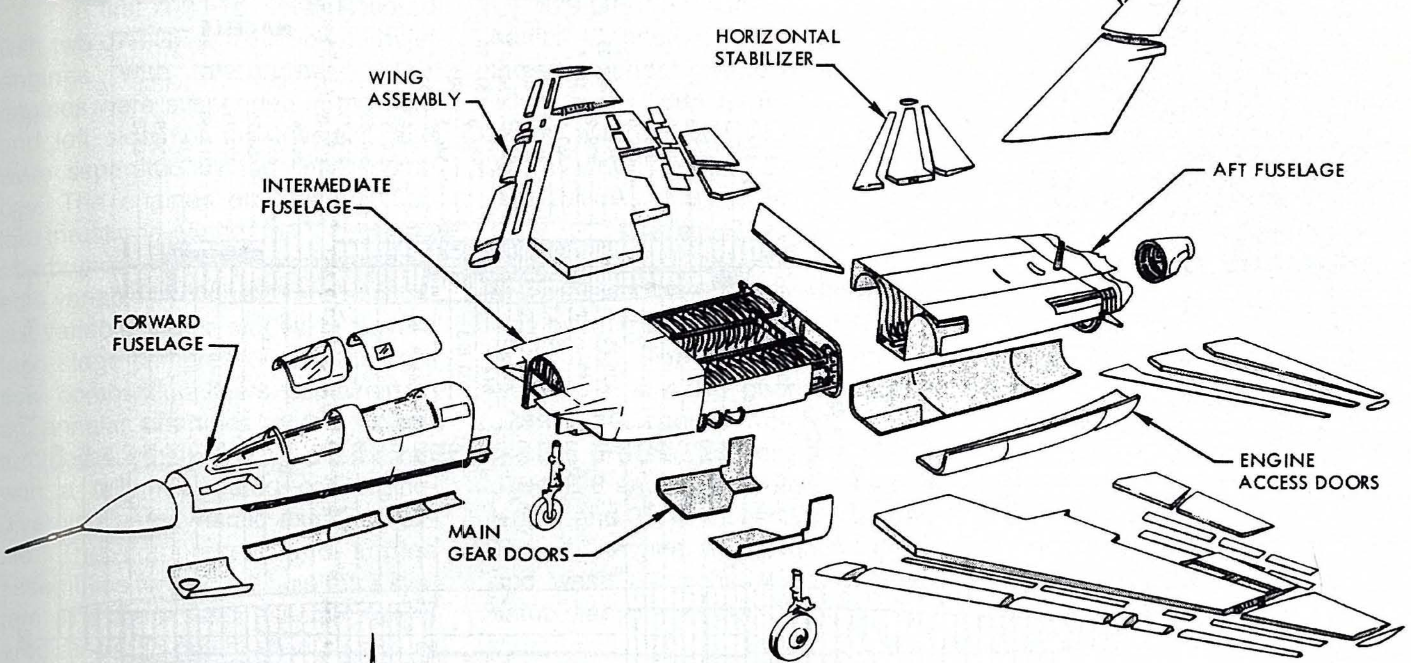
Model NA-283: 2 November 1962, C/N w(A)-63-0274-i for 23-RA-5Cs for fiscal 1963, BuNos 151615-634, 151726-151728

Model NA-296: 7 April 1964, C/N w-64-0377-i for conversion of 27-A-5As to RA-5Cs, BuNos 145157, 146695-146696, 146698, 146701-702, 147850, 147858, 148925, 148932-933, 149276-281, 149283-289, 149291, and 149293-294. See previous page for conversion sequence

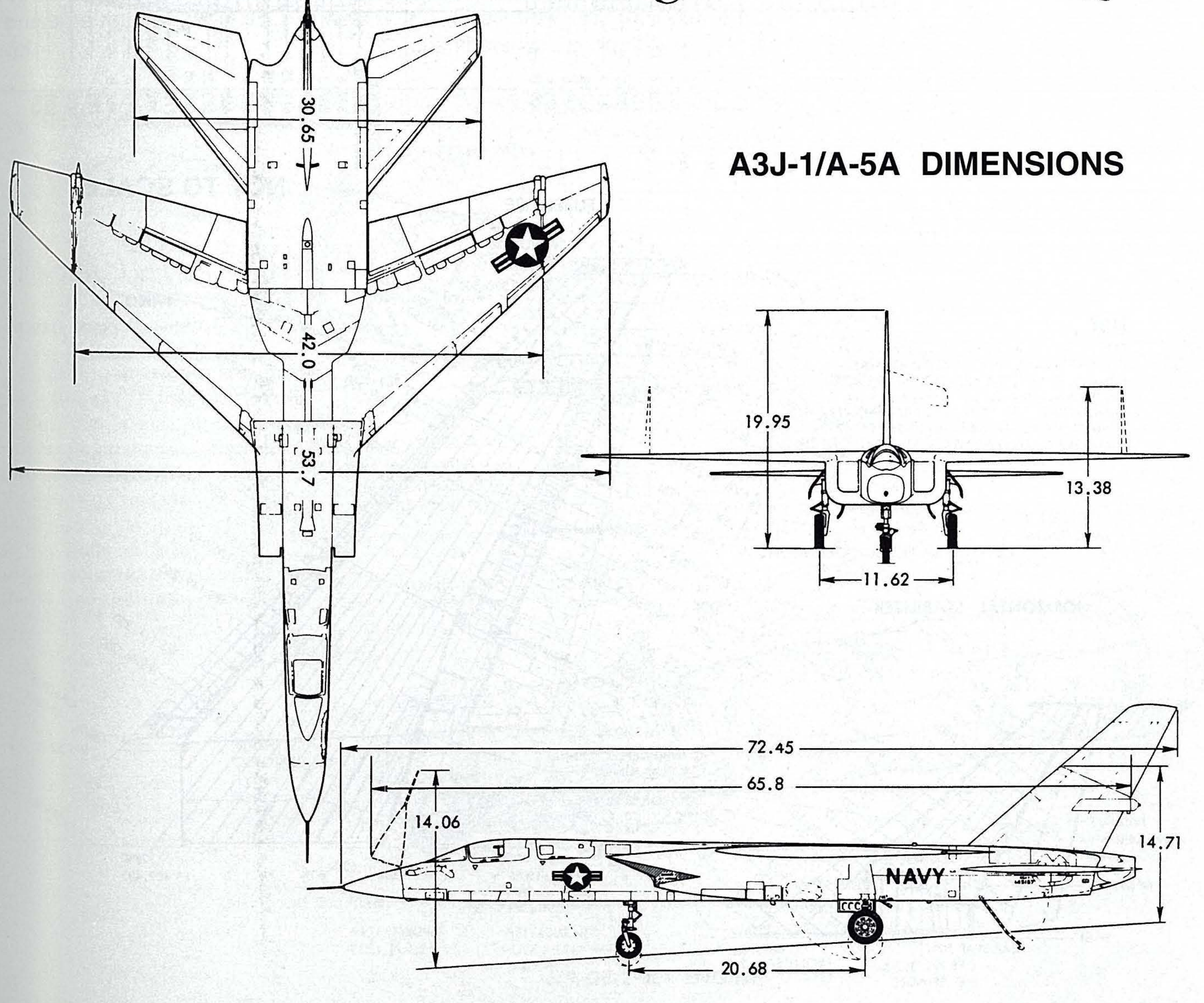
Model NA-298: 29 December 1965, C/N w-66-0425 for conversion of 16-A-5As to RA-5Cs, BuNos 147852-854, 147856-857, 147859-861, 148926, 148928-929, and 149295-299. See previous page for conversion sequence

Model NA-316: 29 March 1967, C/N N00019-68-C-0190 for 46-new RA-5Cs BuNos 156608-653, The last 10-aircraft BuNos 156644-653 were cancelled.

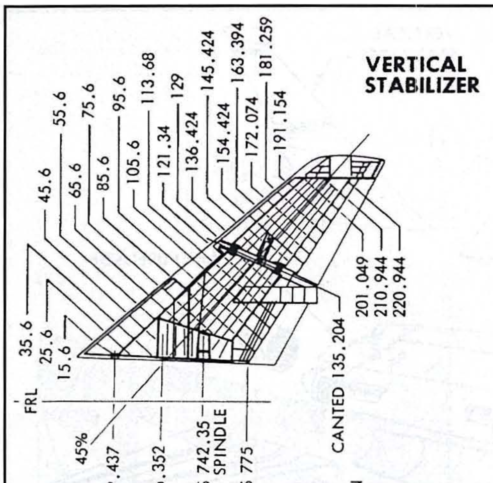
A3J-1/A-5A MAJOR ASSEMBLIES

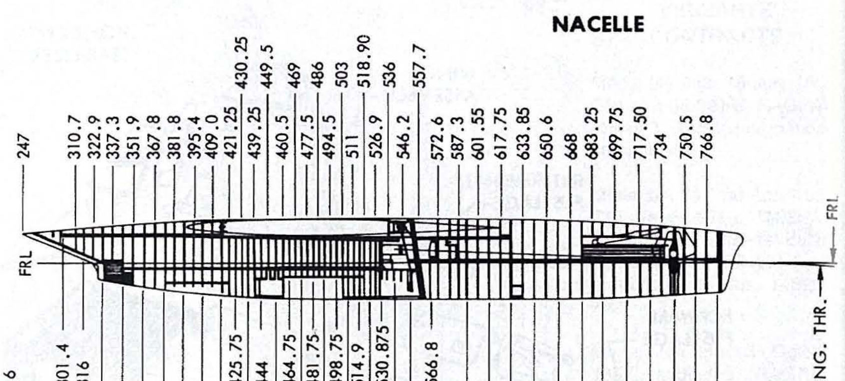

VERTICAL STABILIZER
HORIZONTAL STABILIZER
WING ASSEMBLY
AFT FUSELAGE
INTERMEDIATE FUSELAGE
FORWARD FUSELAGE
ENGINE ACCESS DOORS
MAIN GEAR DOORS

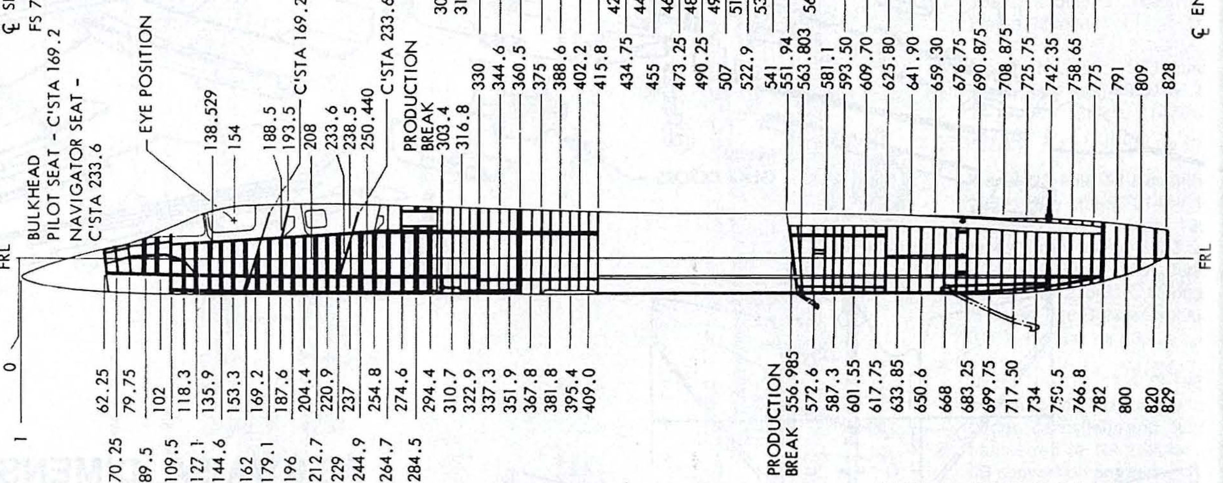
A3J-1/A-5A DIMENSIONS


30.65
42.0
53.7
19.95
13.38
11.62
72.45
65.8
14.06
14.71
20.68
NAVY

A3J-1/A-5A STATION DIAGRAMS


VERTICAL STABILIZER
FRL
35.6
25.6
15.6
45%
FS 679.437
FS 716.352
FS 742.35
℄ SPINDLE
FS 775
CANTED 135.204
45.6
55.6
65.6
75.6
85.6
95.6
105.6
113.68
121.34
129
136.424
145.424
154.424
163.394
172.074
181.259
191.154
201.049
210.944
220.944

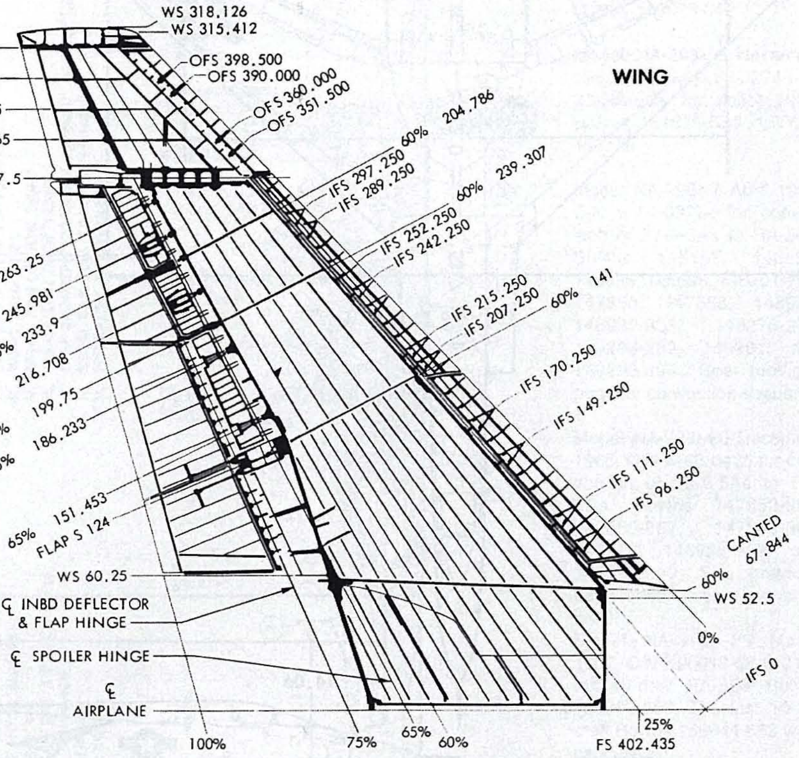

NACELLE
FRL
247
301.4
316
310.7
322.9
337.3
351.9
367.8
381.8
395.4
409.0
421.25
430.25
425.75
439.25
449.5
444
460.5
469
464.75
477.5
486
481.75
494.5
503
498.75
511
518.90
514.9
526.9
536
530.875
546.2
557.7
566.8
572.6
587.3
601.55
617.75
633.85
650.6
668
683.25
699.75
717.50
734
750.5
766.8
℄ ENG. THR.
FRL

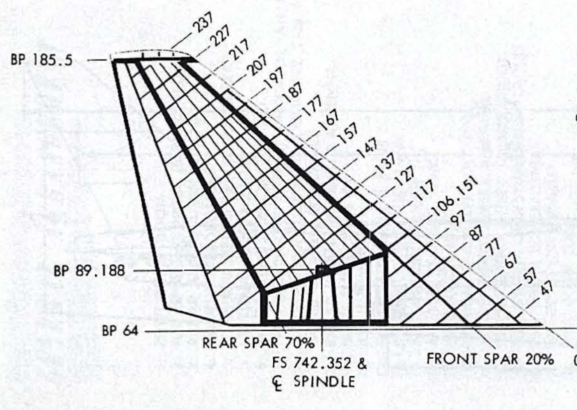

FUSELAGE
1
0
FRL
BULKHEAD
PILOT SEAT - C'STA 169.2
NAVIGATOR SEAT - C'STA 233.6
EYE POSITION
138.529
154
188.5
193.5
C'STA 169.2
208
233.6
238.5
250.440
C'STA 233.6
PRODUCTION BREAK
303.4
316.8
330
344.6
360.5
375
388.6
402.2
415.8
434.75
455
473.25
490.25
507
522.9
541
551.94
563.803
581.1
593.50
609.70
625.80
641.90
659.30
676.75
690.875
708.875
725.75
742.35
758.65
775
791
809
828
FRL
62.25
70.25
79.75
89.5
102
109.5
118.3
127.1
135.9
144.6
153.3
162
169.2
179.1
187.6
196
204.4
212.7
220.9
229
237
244.9
254.8
264.7
274.6
284.5
294.4
310.7
322.9
337.3
351.9
367.8
381.8
395.4
409.0
PRODUCTION BREAK 556.985
572.6
587.3
601.55
617.75
633.85
650.6
668
683.25
699.75
717.50
734
750.5
766.8
782
800
820
829

NOT TO SCALE

NOTE:

PERCENTAGE PLANES AND STATIONS - A PERCENTAGE PLANE OF AN AIRFOIL IS MEASURED FROM THE LEADING EDGE AT THE ROOT CHORD AND TIP CHORD. THE PLANE RUNNING BETWEEN THESE TWO POINTS AND PERPENDICULAR TO THE AIRFOIL REFERENCE PLANE IS CALLED PERCENTAGE STATION.


WING
WS 318.126
WS 315.412
WS 308.563
WS 294
WS 279.75
WS 265
WS 247.5
OFS 398.500
OFS 390.000
OFS 360.000
OFS 351.500
60%
204.786
IFS 297.250
IFS 289.250
60%
239.307
IFS 252.250
IFS 242.250
60%
141
IFS 215.250
IFS 207.250
IFS 170.250
IFS 149.250
IFS 111.250
IFS 96.250
CANTED 67.844
60%
WS 52.5
0%
IFS 0
25%
FS 402.435
65%
60%
75%
100%
℄ AIRPLANE
℄ SPOILER HINGE
℄ INBD DEFLECTOR & FLAP HINGE
WS 60.25
65%
FLAP S 124
151.453
65%
186.233
65%
199.75
65%
216.708
65%
233.9
65%
245.981
65%
263.25

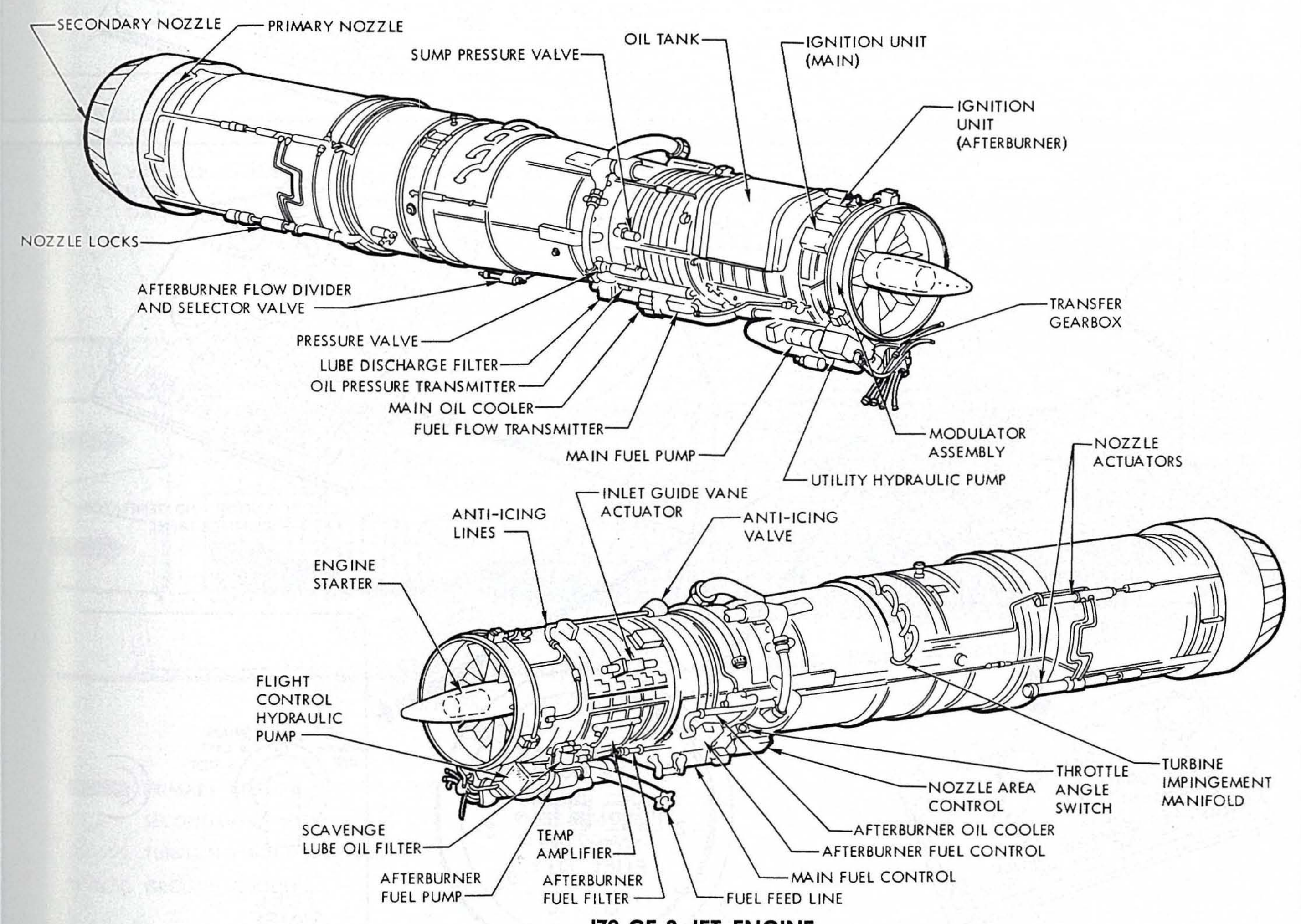

HORIZONTAL STABILIZER
BP 185.5
237
227
217
207
197
187
177
167
157
147
137
127
117
106.151
97
87
77
67
57
47
BP 89.188
BP 64
REAR SPAR 70%
FS 742.352 & ℄ SPINDLE
FRONT SPAR 20%
0%

J79-GE-2/8/10 ENGINES AND FUEL SYSTEMS

The first A-3J-1s were delivered with two J79-GE-2 axial flow turbojet engines with afterburners. The engines were suspended in the right and left sides of the fuselage and were separated by the linear bomb bay. The engines produced 10,000 lbs. thrust and 15,000 lbs. thrust with afterburner. The engines incorporated a variable inlet guide vane section, six variable stator stages, a seventeen stage compressor, ten through-flow combustion liners contained in an annular chamber, a three-stage turbine assembly and an afterburner with a fully modulated converging-diverging aerodynamic exhaust nozzle. The compressor and turbine assemblies formed a single rotor system. The compressor assembly delivered air to the combustion section at a pressure ratio of about 12:1 at sea level.

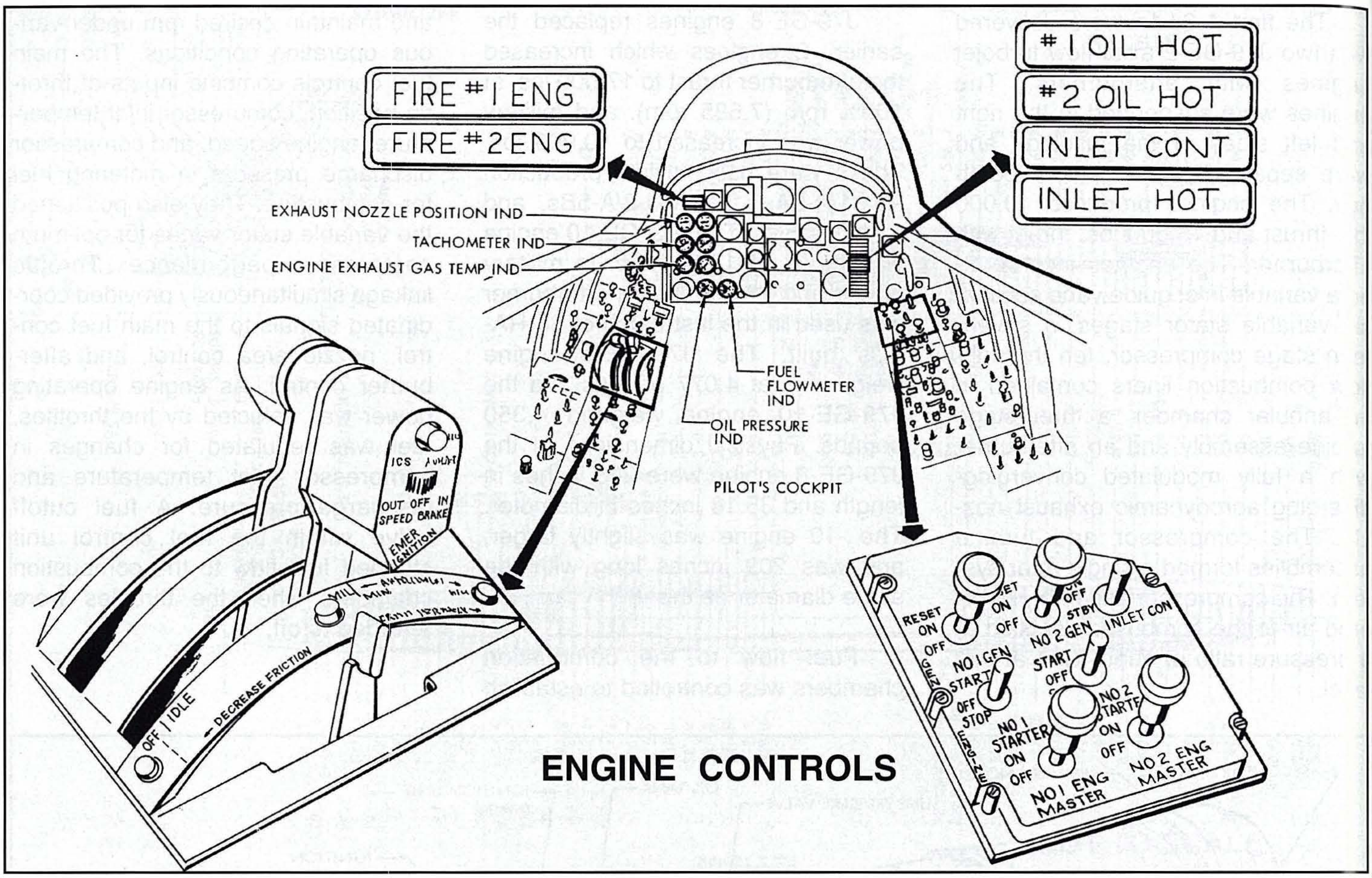
J79-GE-8 engines replaced the earlier -2 engines which increased the afterburner thrust to 17,000 lbs. at 100% rpm (7,685 rpm), and military power was increased to 10,900 lbs. These were used in late production A3J-1/A-5As, the A3J-2/A-5Bs, and early RA-5Cs. The J79-GE-10 engine with thrust of 12,000 lbs. in military power and 18,000 lbs. in afterburner was used in the last batch of 36 RA-5Cs built. The J79-GE-8 engine weighed-in at 4,077 pounds and the J79-GE-10 engine weighed 4,350 pounds. Physical dimensions of the J79-GE-8 engine were 208 inches in length and 35.18 inches in diameter. The -10 engine was slightly larger, and was 209 inches long with the same diameter as the -8.

Fuel flow to the combustion chambers was controlled to establish and maintain desired rpm under various operating conditions. The main fuel controls combine inputs of throttle position, compressor inlet temperature, engine speed, and compressor discharge pressure in metering fuel for combustion. They also positioned the variable stator vanes for optimum compressor performance. Throttle linkage simultaneously provided coordinated signals to the main fuel control, nozzle area control, and afterburner control. As engine operating power was selected by the throttles, fuel was regulated for changes in compressor inlet temperature and discharge pressure. A fuel cutoff valve within the fuel control unit stopped fuel flow to the combustion chambers when the throttles were retarded to off.

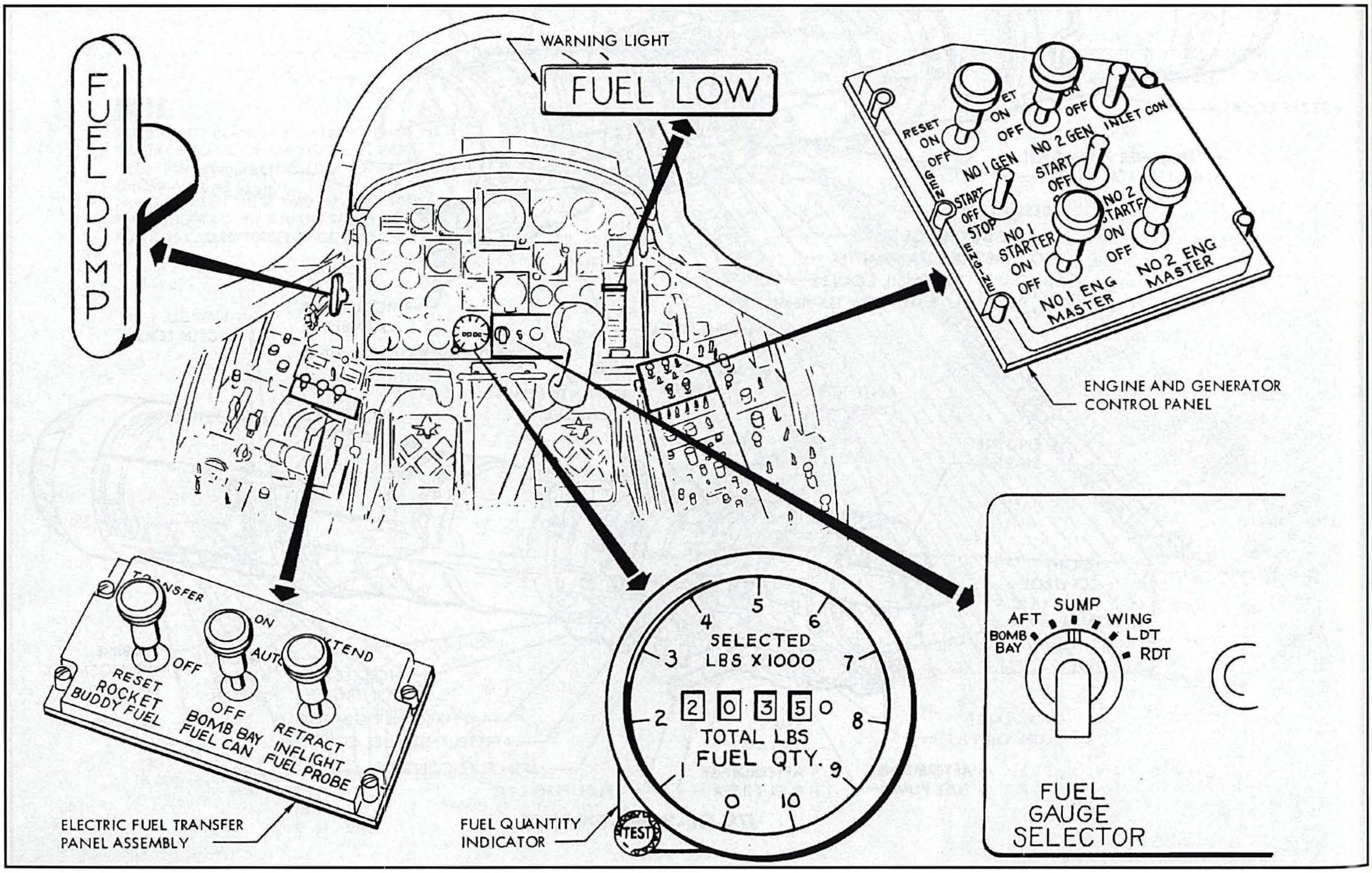

SECONDARY NOZZLE
PRIMARY NOZZLE
SUMP PRESSURE VALVE
OIL TANK
IGNITION UNIT (MAIN)
IGNITION UNIT (AFTERBURNER)
NOZZLE LOCKS
AFTERBURNER FLOW DIVIDER AND SELECTOR VALVE
TRANSFER GEARBOX
PRESSURE VALVE
LUBE DISCHARGE FILTER
OIL PRESSURE TRANSMITTER
MAIN OIL COOLER
FUEL FLOW TRANSMITTER
MAIN FUEL PUMP
MODULATOR ASSEMBLY
NOZZLE ACTUATORS
UTILITY HYDRAULIC PUMP
INLET GUIDE VANE ACTUATOR
ANTI-ICING LINES
ANTI-ICING VALVE
ENGINE STARTER
FLIGHT CONTROL HYDRAULIC PUMP
THROTTLE ANGLE SWITCH
TURBINE IMPINGEMENT MANIFOLD
NOZZLE AREA CONTROL
SCAVENGE LUBE OIL FILTER
TEMP AMPLIFIER
AFTERBURNER OIL COOLER
AFTERBURNER FUEL CONTROL
AFTERBURNER FUEL PUMP
AFTERBURNER FUEL FILTER
MAIN FUEL CONTROL
FUEL FEED LINE

J79-GE-2 JET ENGINE

EARLY A3J-1 J79-GE-2 COCKPIT ENGINE AND FUEL SYSTEM CONTROLS

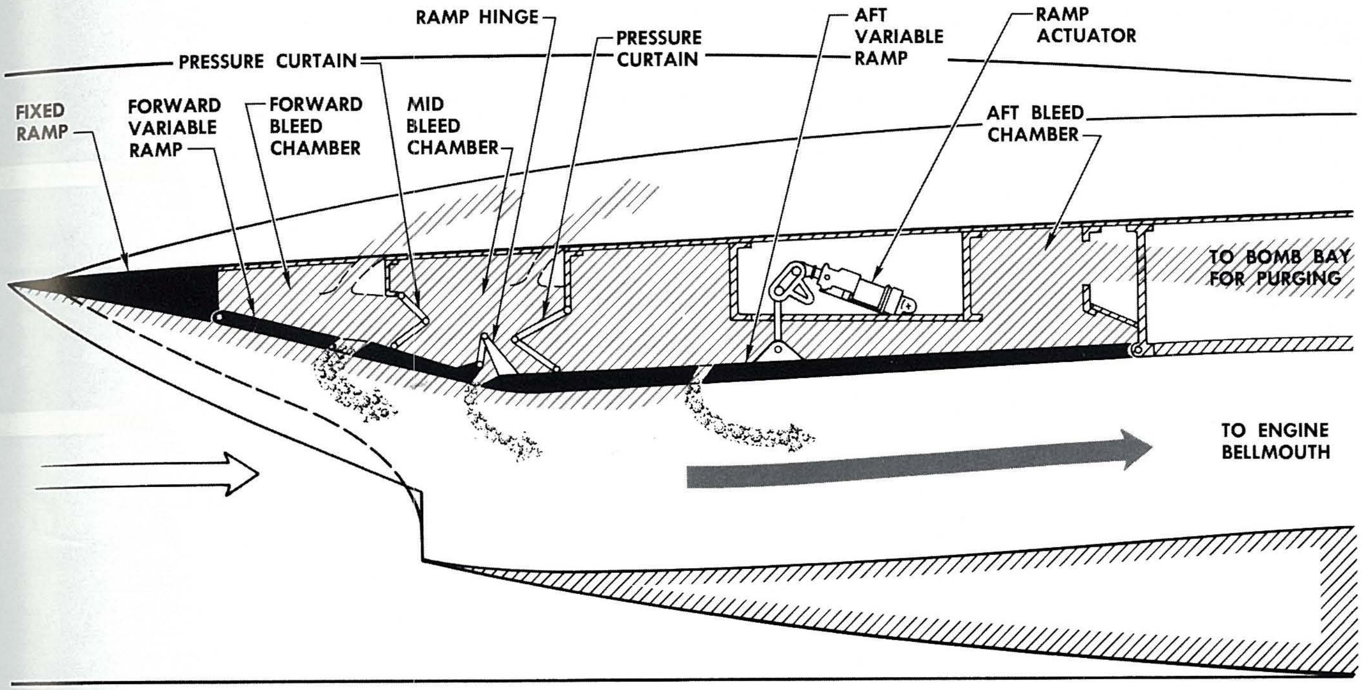

FIRE # 1 ENG
FIRE # 2 ENG
EXHAUST NOZZLE POSITION IND
TACHOMETER IND
ENGINE EXHAUST GAS TEMP IND
FUEL FLOWMETER IND
OIL PRESSURE IND
PILOT'S COCKPIT
# 1 OIL HOT
# 2 OIL HOT
INLET CONT
INLET HOT
ICS
OUT OFF IN
SPEED BRAKE
EMER IGNITION
MIL
MIN
OFF IDLE
DECREASE FRICTION
RESET
ON
OFF
GEN
SET
ON
OFF
ON
OFF
STBY
NO 2 GEN
INLET CON
NO 1 GEN
START
OFF
STOP
START
OFF
NO 1 STARTER
ON
OFF
NO 2 STARTER
ON
OFF
ENGINE
NO 1 ENG MASTER
NO 2 ENG MASTER

ENGINE CONTROLS

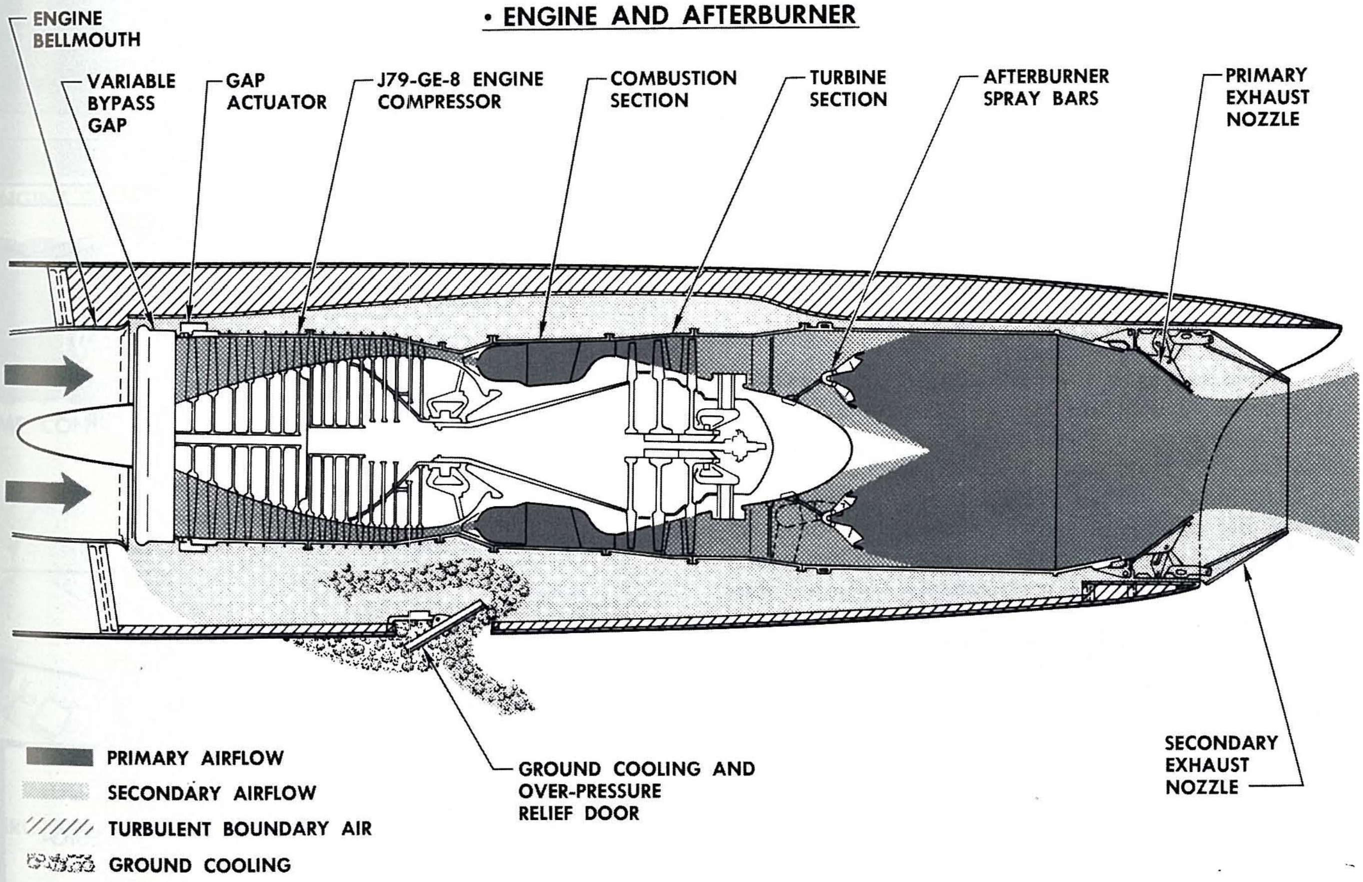

WARNING LIGHT
FUEL LOW
FUEL DUMP
RESET
ON
OFF
GEN
SET
ON
OFF
ON
OFF
STBY
NO 2 GEN
INLET CON
NO 1 GEN
START
OFF
STOP
START
OFF
NO 1 STARTER
ON
OFF
NO 2 STARTER
ON
OFF
ENGINE
NO 1 ENG MASTER
NO 2 ENG MASTER
ENGINE AND GENERATOR CONTROL PANEL
TRANSFER
ON
AUTO
EXTEND
OFF
RESET
ROCKET
BUDDY FUEL
OFF
BOMB BAY
FUEL CAN
RETRACT
INFLIGHT
FUEL PROBE
ELECTRIC FUEL TRANSFER PANEL ASSEMBLY
0
1
2
3
4
5
6
7
8
9
10
SELECTED
LBS X 1000
2 0 3 5 0
TOTAL LBS
FUEL QTY.
TEST
FUEL QUANTITY INDICATOR
SUMP
AFT
WING
BOMB BAY
LDT
RDT
FUEL GAUGE SELECTOR

J79-GE-8 ENGINE AIR INDUCTION SYSTEM

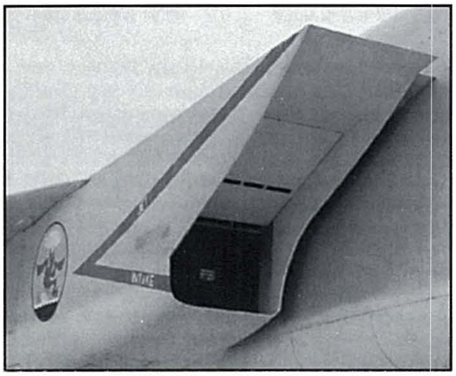
VARIABLE AIR INTAKE RAMPS

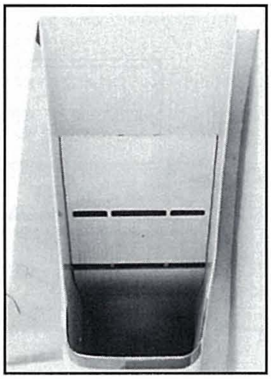

RAMP HINGE
PRESSURE CURTAIN
PRESSURE CURTAIN
AFT VARIABLE RAMP
RAMP ACTUATOR
FIXED RAMP
FORWARD VARIABLE RAMP
FORWARD BLEED CHAMBER
MID BLEED CHAMBER
AFT BLEED CHAMBER
TO BOMB BAY FOR PURGING
TO ENGINE BELLMOUTH

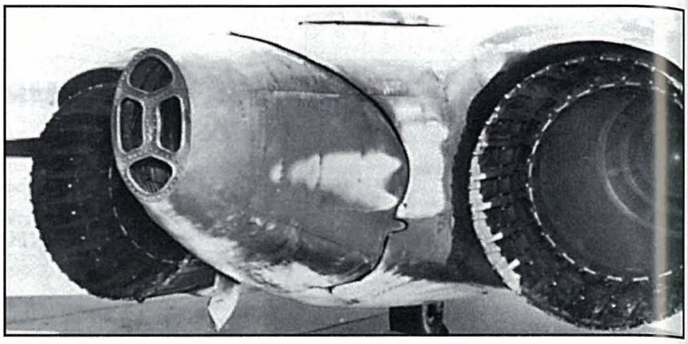
• ENGINE AND AFTERBURNER

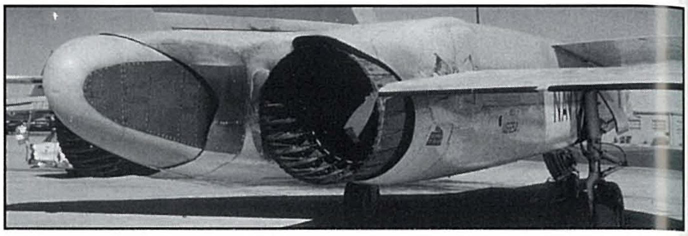

ENGINE BELLMOUTH
VARIABLE BYPASS GAP
GAP ACTUATOR
J79-GE-8 ENGINE COMPRESSOR
COMBUSTION SECTION
TURBINE SECTION
AFTERBURNER SPRAY BARS
PRIMARY EXHAUST NOZZLE
GROUND COOLING AND OVER-PRESSURE RELIEF DOOR
SECONDARY EXHAUST NOZZLE
PRIMARY AIRFLOW
SECONDARY AIRFLOW
TURBULENT BOUNDARY AIR
GROUND COOLING

ENGINE INTAKES AND EXHAUSTS

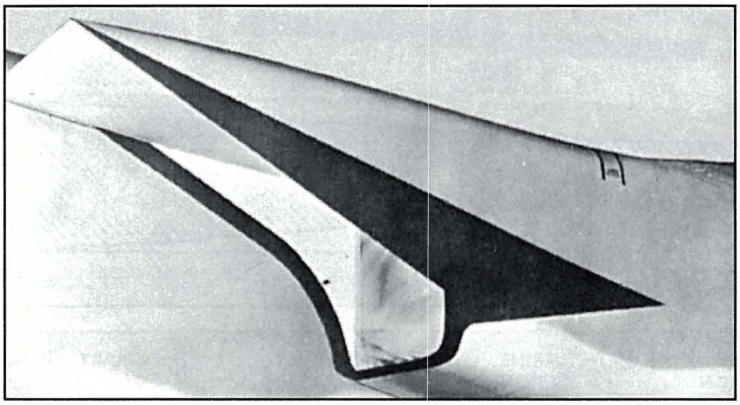


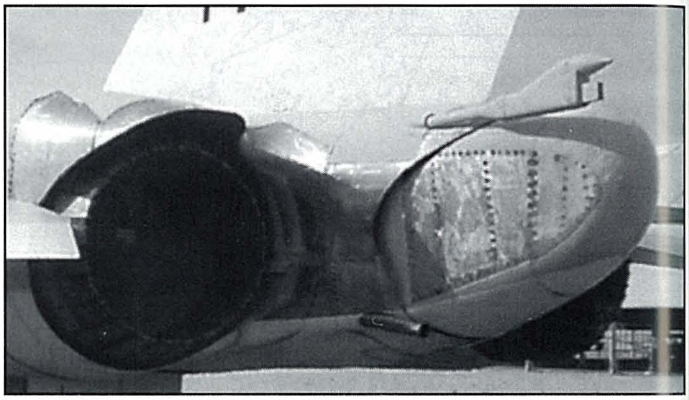




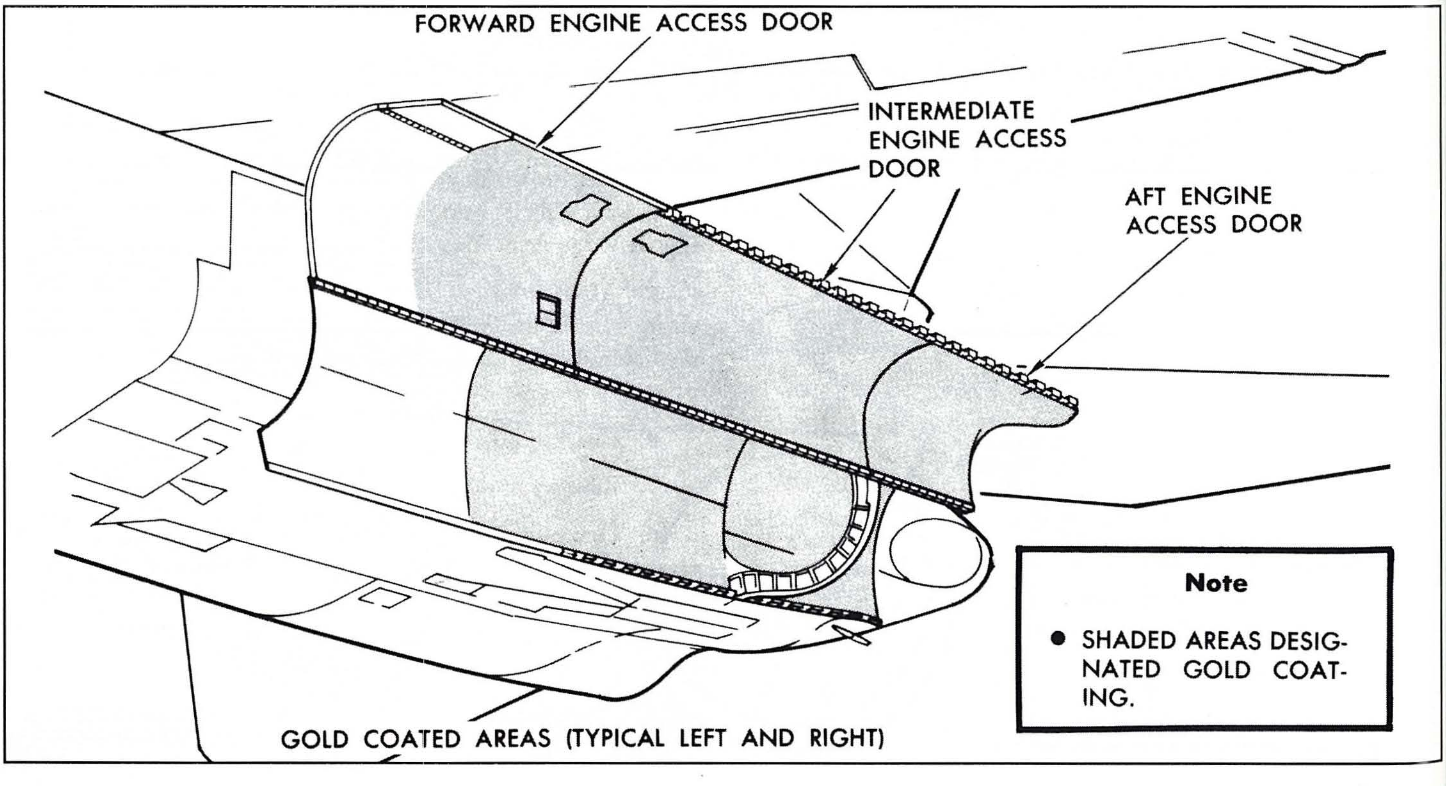


Above, RA-5C J79-8 intake had a curved outer lip wall. Above, head-on view of RA-5C J79-10 intake ramp. Below, RA-5C J79-10 outer lip wall was strait as it was on the A-5A. Above right, A-5A expendable tail cone. At right, RA-5C J79-8 tail cone right side. Below right, RA-5C J79-8 tail cone left side with AN/ALQ-41/-100 antenna above it and fuel dump tube below.



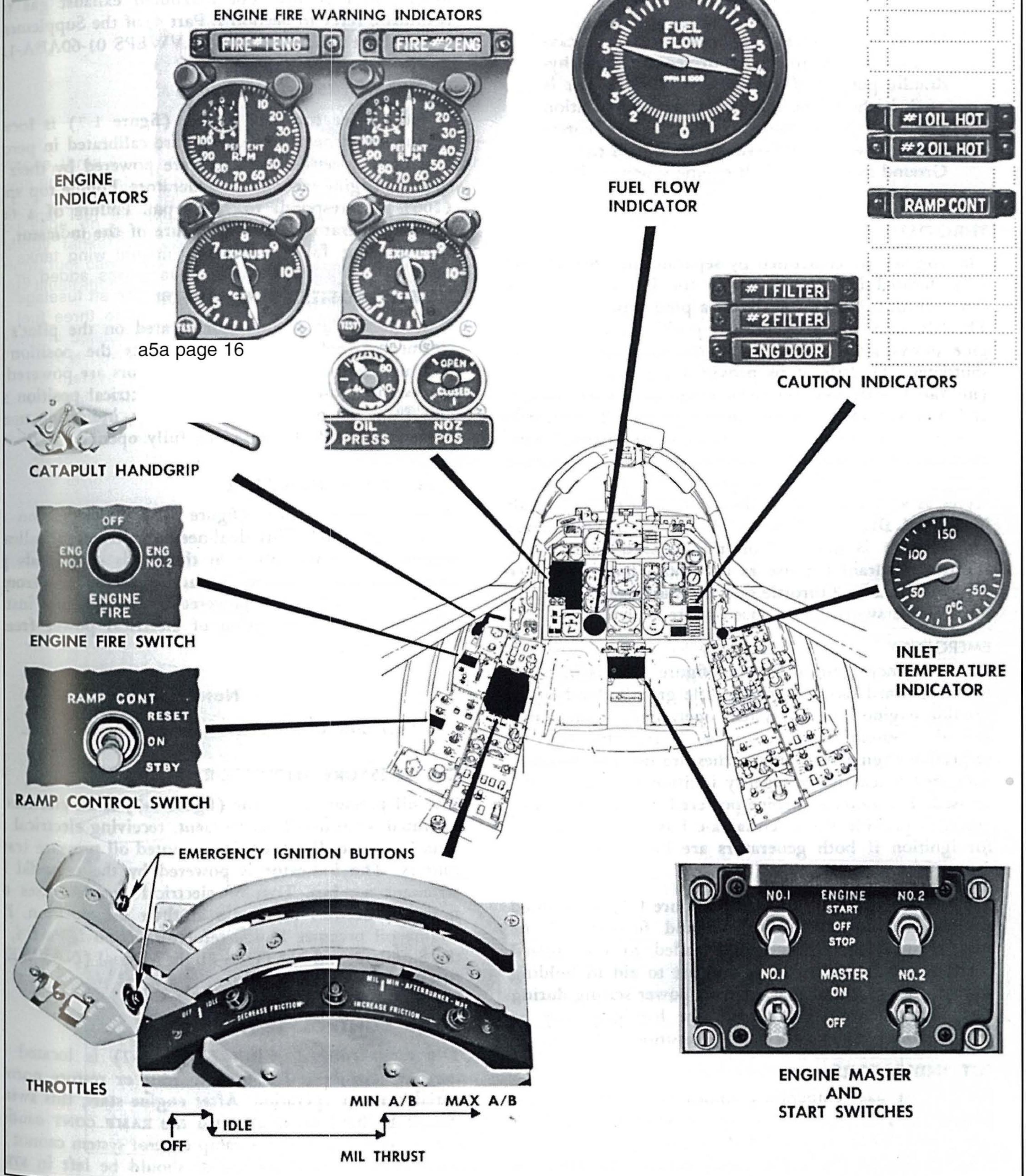


ENGINE ACCESS DOORS


FORWARD ENGINE ACCESS DOOR
INTERMEDIATE ENGINE ACCESS DOOR
AFT ENGINE ACCESS DOOR
GOLD COATED AREAS (TYPICAL LEFT AND RIGHT)
Note
● SHADED AREAS DESIGNATED GOLD COATING.

J79-GE-8 COCKPIT ENGINE CONTROLS AND INDICATORS

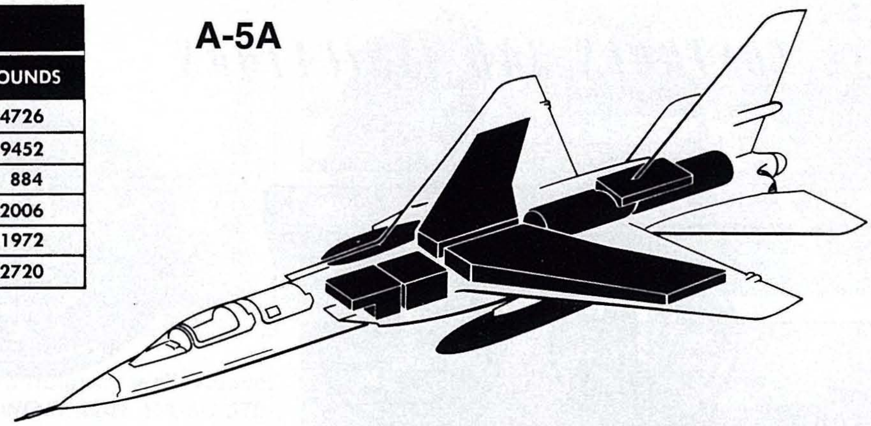
ENGINE CONTROLS AND INDICATORS


ENGINE FIRE WARNING INDICATORS
FIRE #1 ENG
FIRE #2 ENG
PERCENT RPM
EXHAUST °C x 100
TEST
ENGINE INDICATORS
a5a page 16
OIL PRESS
NOZ POS
OPEN
CLOSED
FUEL FLOW
PPH X 1000
FUEL FLOW INDICATOR
#1 OIL HOT
#2 OIL HOT
RAMP CONT
#1 FILTER
#2 FILTER
ENG DOOR
CAUTION INDICATORS
CATAPULT HANDGRIP
OFF
ENG NO.1
ENG NO.2
ENGINE FIRE
ENGINE FIRE SWITCH
RAMP CONT
RESET
ON
STBY
RAMP CONTROL SWITCH
INLET TEMPERATURE INDICATOR
EMERGENCY IGNITION BUTTONS
OFF
IDLE
DECREASE FRICTION
INCREASE FRICTION
MIL
MIN - AFTERBURNER - MAX
THROTTLES
MIN A/B
MAX A/B
IDLE
OFF
MIL THRUST
NO.1
ENGINE START
OFF
STOP
NO.2
NO.1
MASTER ON
NO.2
OFF
ENGINE MASTER AND START SWITCHES

A-5A AND RA-5C FUEL CELLS

TANK CAPACITIES		
TANK	GALLONS	POUNDS
SUMP TANK	695	4726
WING TANKS	1390	9452
AFT (SADDLE) TANK	130	884
BOMB BAY CAN (EACH)	295	2006
BUDDY TANK	290	1972
DROP TANK (EACH)	400	2720

A-5A



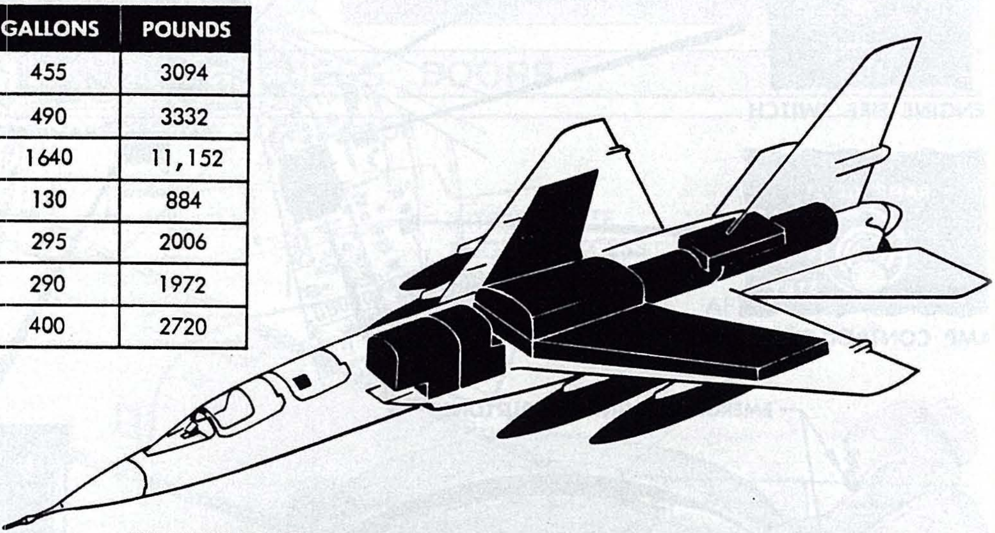
The A-5A internal fuel tanks consist of a fuselage sump tank, two integral wing tanks (overwing tank was added in the RA-5C) and an aft fuselage saddle tank. Up to three fuel cans could be installed in the linear bomb bay and a buddy tanker refueling system and tank could be added in the aft linear position. On the A-5A, two 400-gallon drop tanks could be carried. On the RA-5C, four 400-gallon drop tanks could be carried.

APPROXIMATE USABLE FUEL TOTALS							
NORMAL MISSION		LONG RANGE MISSION		FERRY MISSION		BUDDY TANKER MISSION	
SUMP TANKS WING TANKS SADDLE TANK BOMB BAY CANS (2)		NORMAL MISSION PLUS DROP TANKS (2)		LONG RANGE MISSION PLUS ADDITIONAL BOMB BAY CAN		LONG RANGE MISSION PLUS BUDDY PACKAGE	
GALLONS	POUNDS	GALLONS	POUNDS	GALLONS	POUNDS	GALLONS	POUNDS
2805	19,074	3605	24,514	3900	26,520	3895	26,486

TANK CAPACITIES (USABLE)

TANK	GALLONS	POUNDS
FORWARD	455	3094
SUMP	490	3332
WING (AND OVERWING)	1640	11,152
AFT (SADDLE)	130	884
BOMB BAY CAN (EACH)	295	2006
BUDDY TANK	290	1972
DROP TANK (EACH)	400	2720

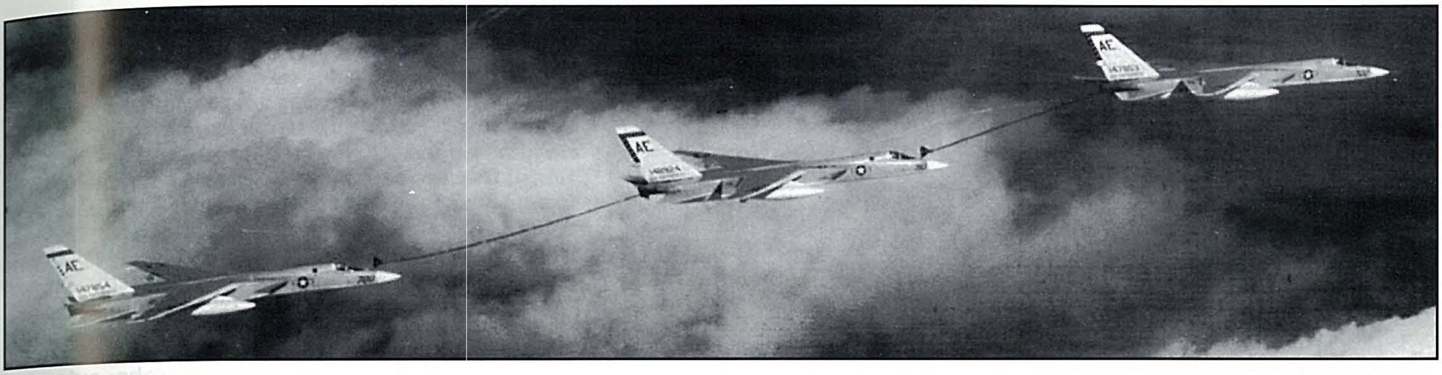
RA-5A



FUEL LOADS FOR TYPICAL MISSIONS

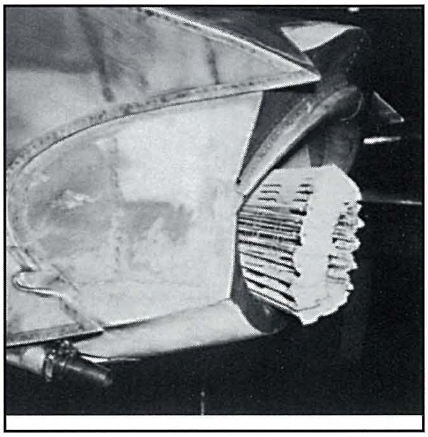
CLEAN		2 DROP TANKS		4 DROP TANKS		LONG RANGE	
FULL INTERNAL BOMB BAY CANS (2)		FULL INTERNAL BOMB BAY CANS (2) DROP TANKS (2)		FULL INTERNAL BOMB BAY CANS (2) DROP TANKS (4)		FULL INTERNAL BOMB BAY CANS (3) DROP TANKS (4)	
GALLONS	POUNDS	GALLONS	POUNDS	GALLONS	POUNDS	GALLONS	POUNDS
3305	22,474	4105	27,914	4905	33,354	5200	35,360

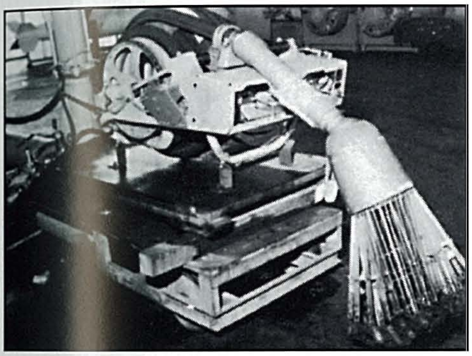
BUDDY TANKER SYSTEM

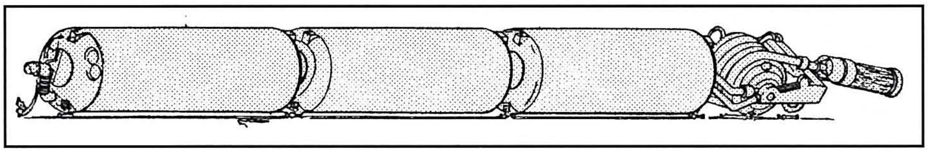


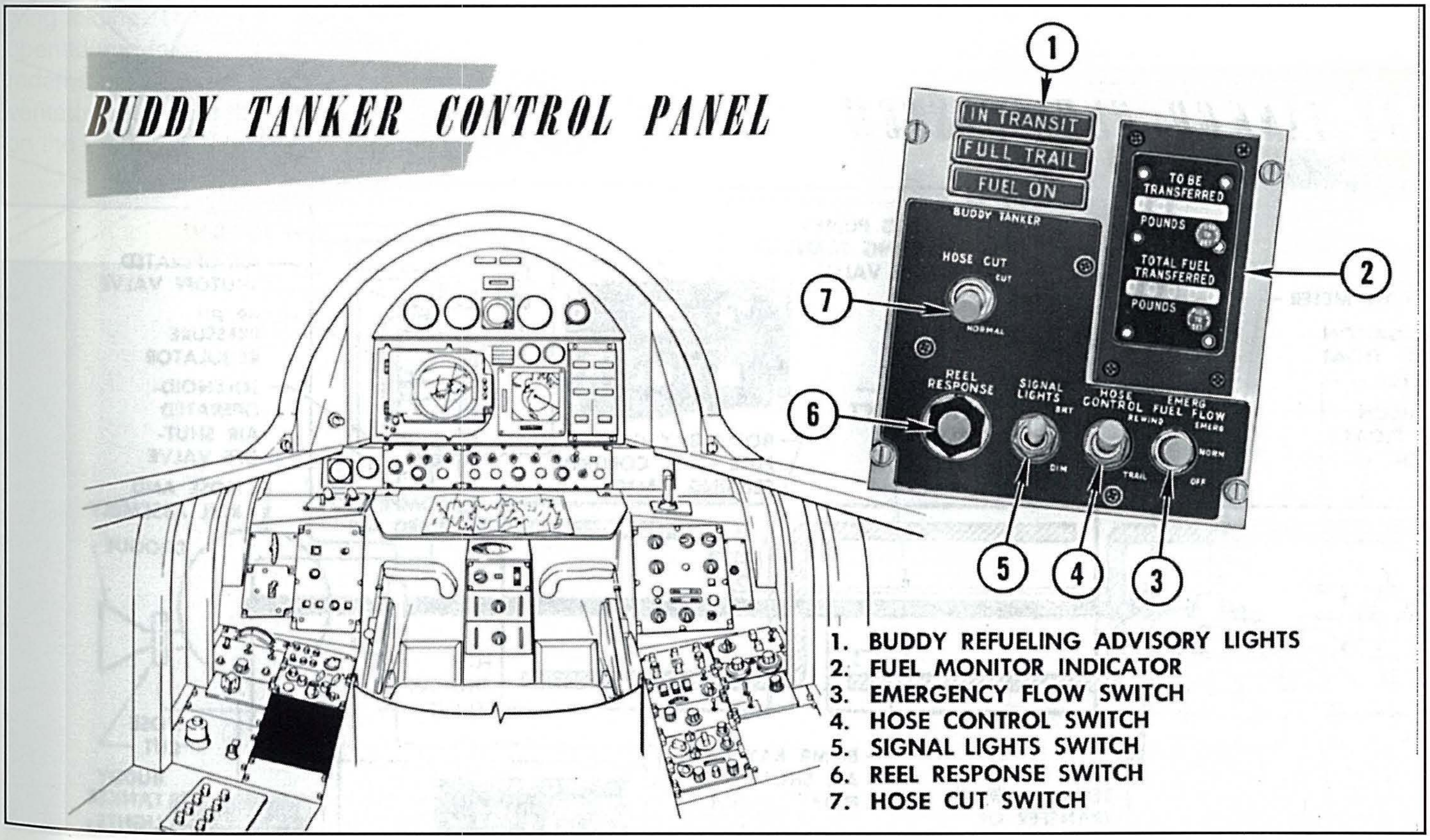
Above, three A3J-1s refueling each other with linear bomb bay buddy tanker packages installed. (MFR) Below, refueling package on a pallet. (MFR) At right, buddy tanker tail cone. (MFR) Below right, fuel cans and buddy tanker package illustration.

The buddy tanker package was designed to provide refueling tanker capabilities. The total capacity of the bomb bay installation could be transferred, used to extend range or dumped. The package installation consisted of a 290-gallon buddy tank, two bomb bay fuel cans, a reel with 78 feet of hose, a pump unit, and a flow scheduler. The non-jettisonable package was installed in the linear bomb bay. The buddy tanker control panel was located in the aft cockpit.







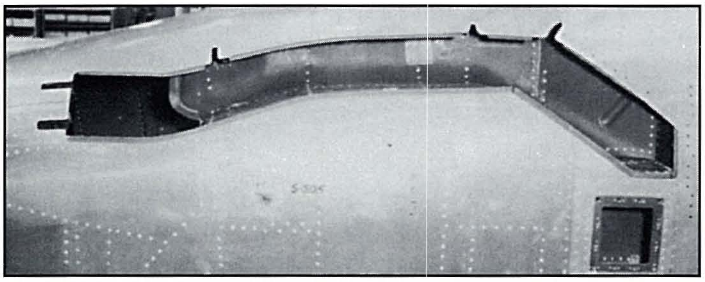


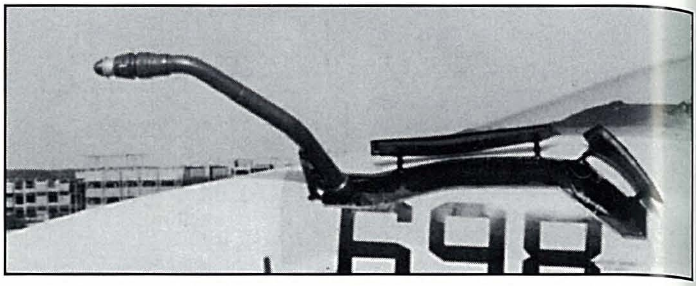
BUDDY TANKER CONTROL PANEL

IN TRANSIT
FULL TRAIL
FUEL ON
BUDDY TANKER
HOSE CUT
CUT
NORMAL
REEL RESPONSE
SIGNAL LIGHTS
BRT
DIM
HOSE CONTROL
REWIND
TRAIL
EMERG FUEL FLOW
EMERG
NORM
OFF
TO BE TRANSFERRED
POUNDS
TOTAL FUEL TRANSFERRED
POUNDS
1
2
3
4
5
6
7

1. BUDDY REFUELING ADVISORY LIGHTS
2. FUEL MONITOR INDICATOR
3. EMERGENCY FLOW SWITCH
4. HOSE CONTROL SWITCH
5. SIGNAL LIGHTS SWITCH
6. REEL RESPONSE SWITCH
7. HOSE CUT SWITCH

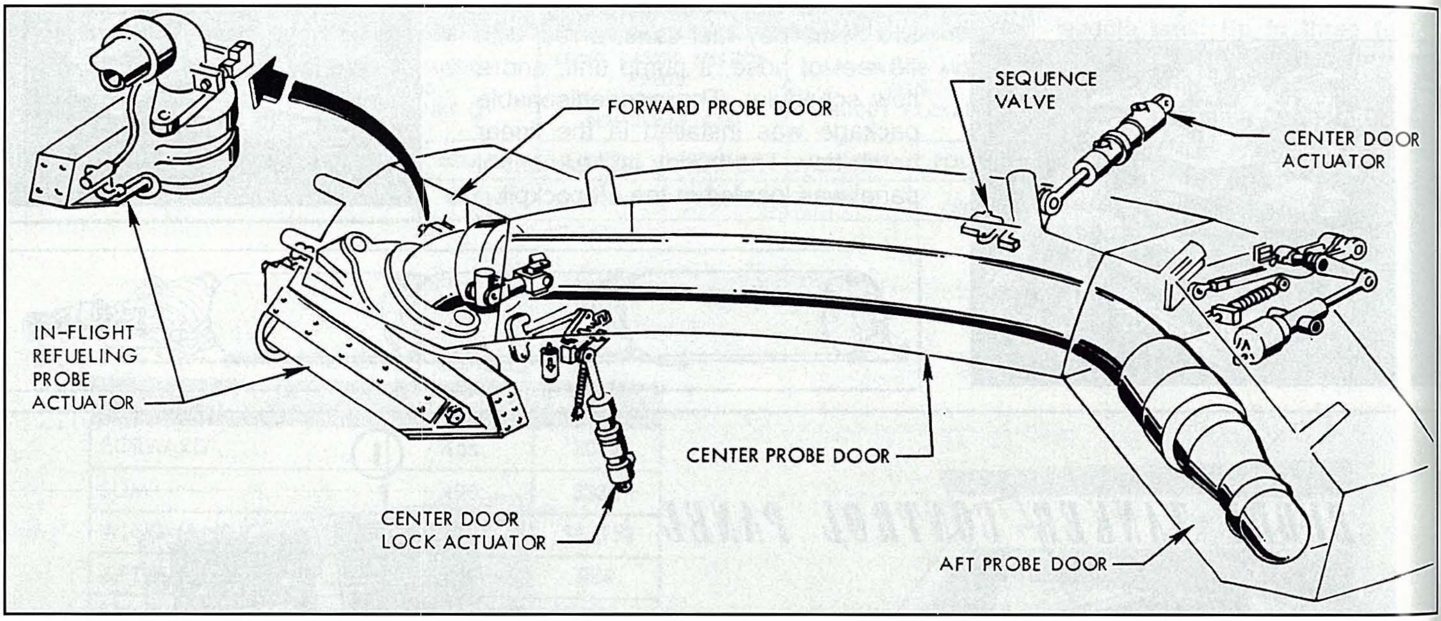
INFLIGHT REFUELING AND DROP TANKS

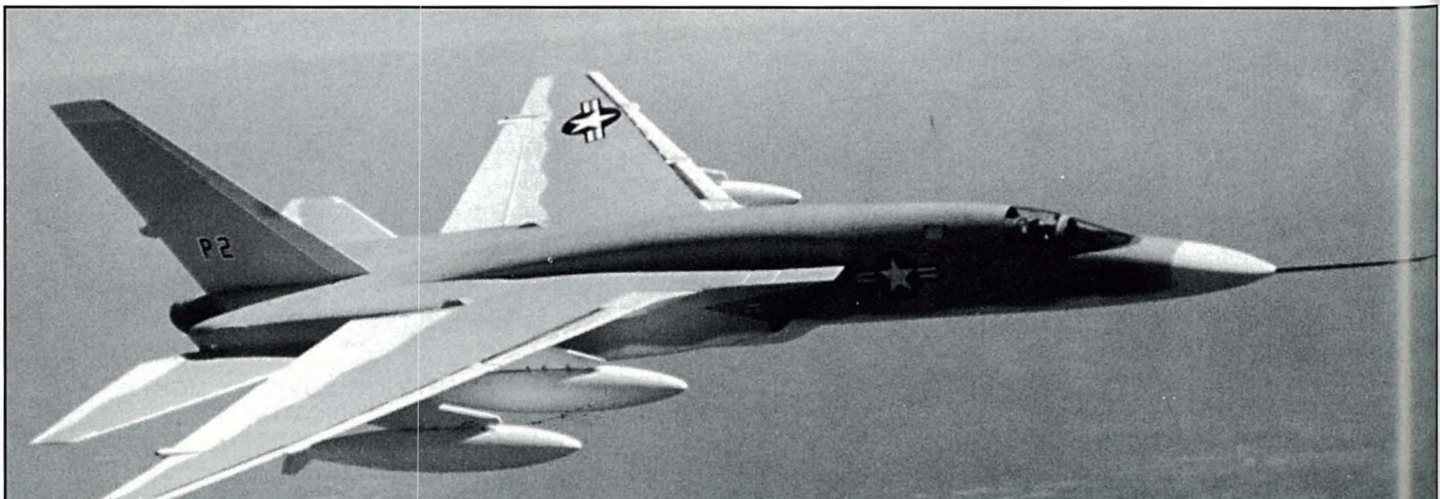




A retractable inflight refueling probe was installed in the forward left side of the fuselage. Utility hydraulic pressure was used to extend and retract the refueling probe by means of a rack and pinion gear. Extension and retraction was controlled by a two-position switch in the cockpit. A mechanical lock maintained the probe in a fixed position in the event of electrical or hydraulic failure. The refueling probe extension was limited to 280 KIAS, and normal refueling airspeed range was 250-270 KIAS.

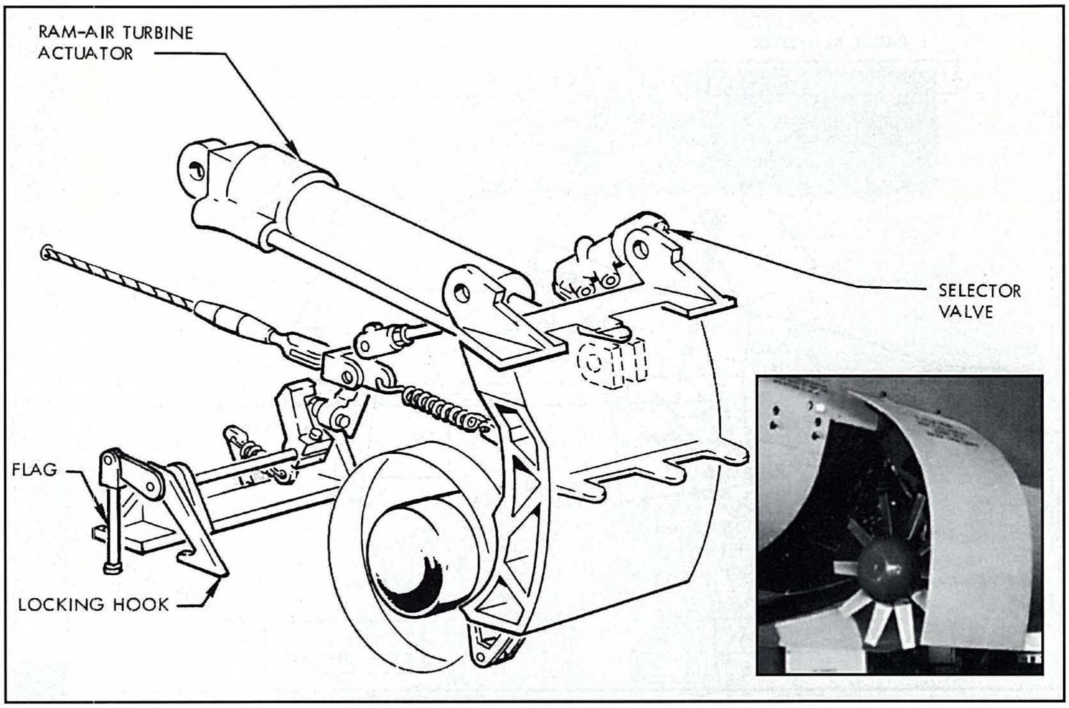
Above left, refueling probe compartment. (MFR) Above, probe extended and open doors. (MFR) Bottom, second RA-5C prototype in flight with four 400 gallon drop tanks. The A3J-1/A-5A was only capable of carrying two of these drop tanks. (MFR via Barry Miller)


FORWARD PROBE DOOR
SEQUENCE VALVE
CENTER DOOR ACTUATOR
IN-FLIGHT REFUELING PROBE ACTUATOR
CENTER PROBE DOOR
CENTER DOOR LOCK ACTUATOR
AFT PROBE DOOR



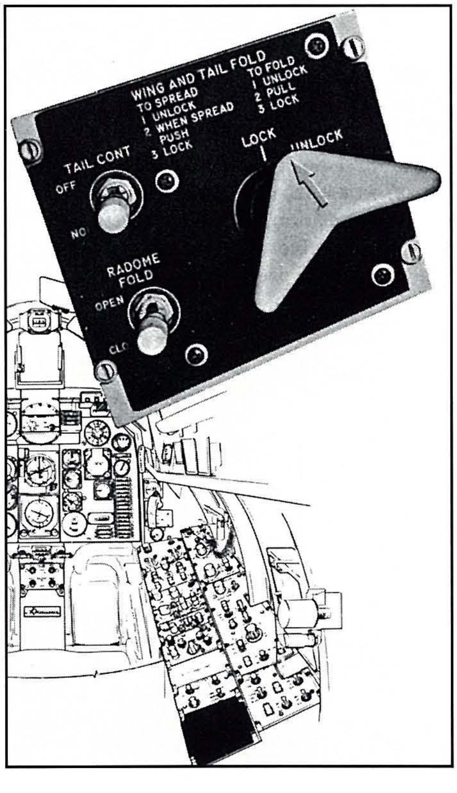
UTILITY HYDRAULIC SYSTEM: RAM - AIR TURBINE

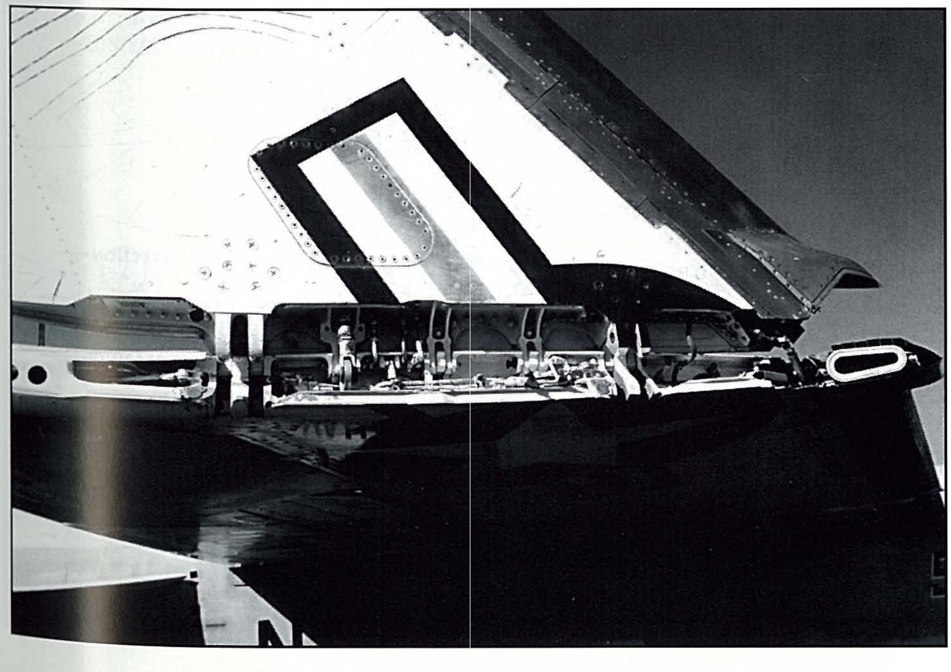
A pop-out type ram-air turbine was furnished for emergency pressurization of the No. 1 flight control system and for driving a hydraulically powered generator which furnished emergency electrical power. The turbine was mounted to a door on the left side of the fuselage just forward of the left main landing gear. It was spring-loaded to the open position and hydraulically retracted to the closed position by utility system pressure. When the assembly was extended into the air stream, the airflow would drive a bladed turbine which was geared to a variable displacement pump.



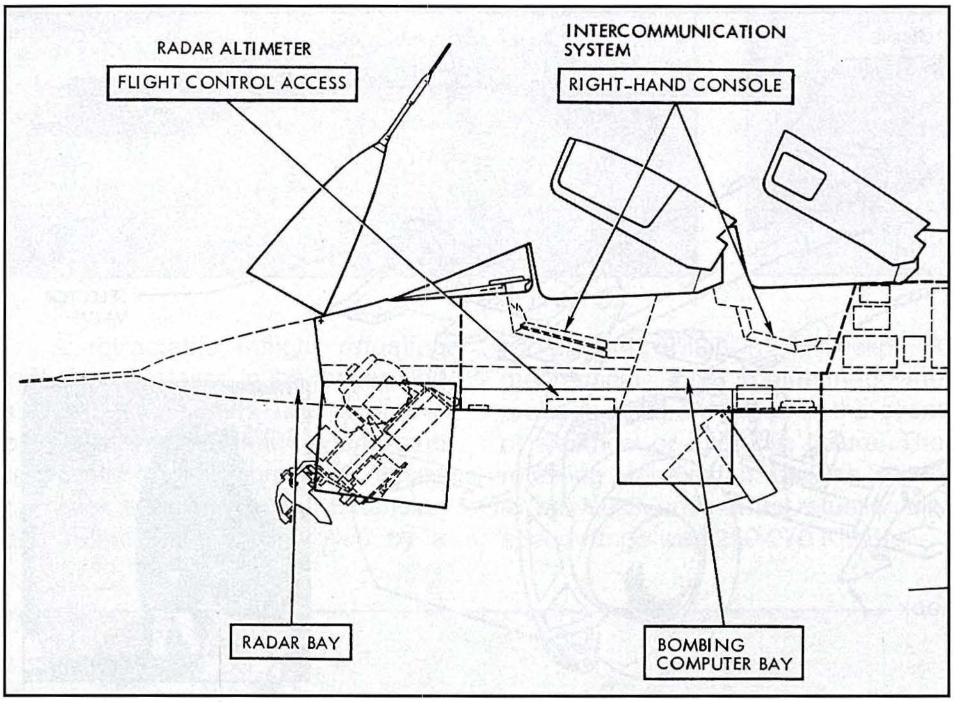
VIGILANTE WING, TAIL AND RADOME FOLD CONTROLS

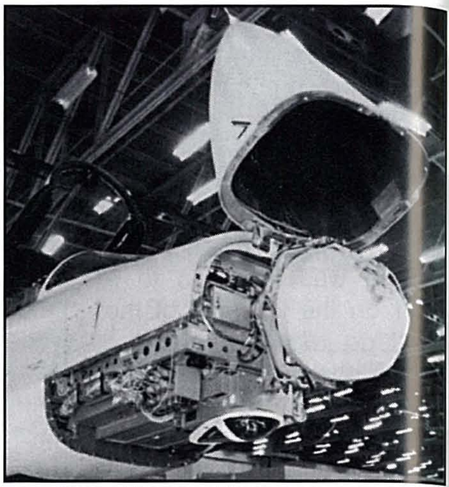
The outer wing panels folded upward to facilitate hangar and deck stowage. Hinge pins ran forward and aft and the panels were locked at the lower wing surface by two lockpins. The lockpins were locked closed by mechanical locks and were unlatched by hydraulic struts. Warning flags on the upper and lower surfaces of the wing protruded when the lockpins were unlocked and were flush with the wing when the wings were down and the lockpins were locked. The folding of the wings was controlled from the cockpit by a two-position handle. The upper panel of the vertical fin folded in a similar manner to the wings for hangar stowage. Tail folding was controlled from the same switch in the cockpit that controlled wing folding. The radome fold switch was on the same panel as the wing and tail fold switch. The radome needed to be opened and folded upward and aft for clearance on the carrier's elevators. Warning flags protruded from each side of the radome as an indication that the latches were not locked. An interlock relay prevented operationof the fold circuit from the pilot's cockpit, unless the aircraft was on the ground and the radar antenna was in the stowed position.

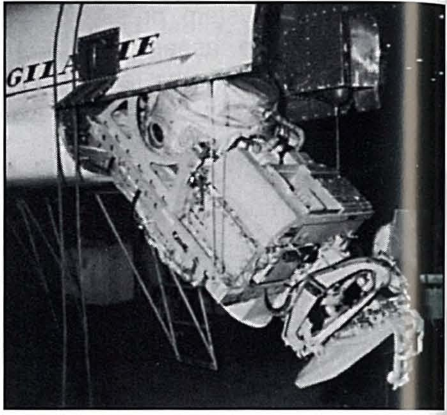




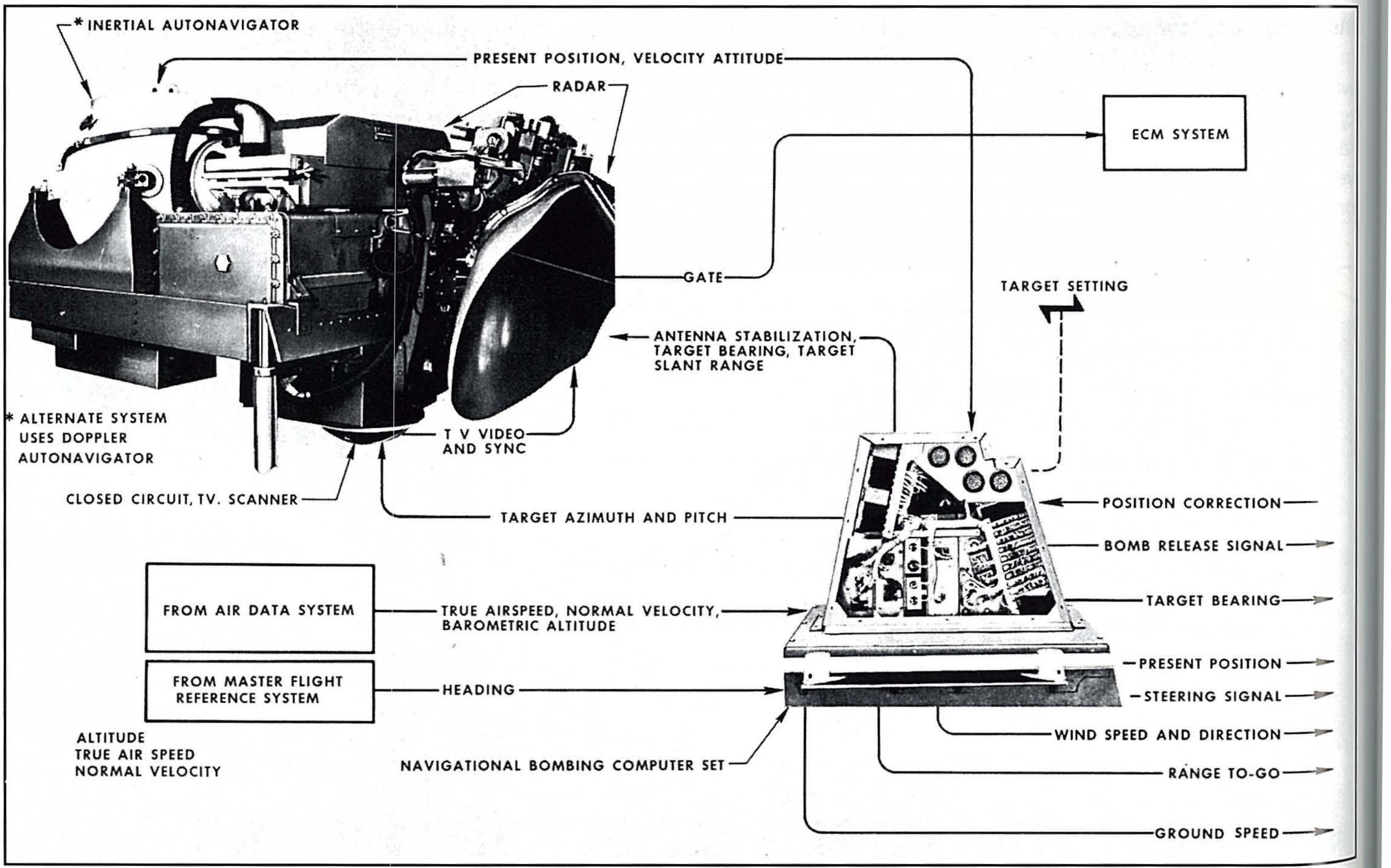
AN/ASB-12 BOMB DIRECTING RADAR SYSTEM


RADAR ALTIMETER
FLIGHT CONTROL ACCESS
INTERCOMMUNICATION SYSTEM
RIGHT-HAND CONSOLE
RADAR BAY
BOMBING COMPUTER BAY

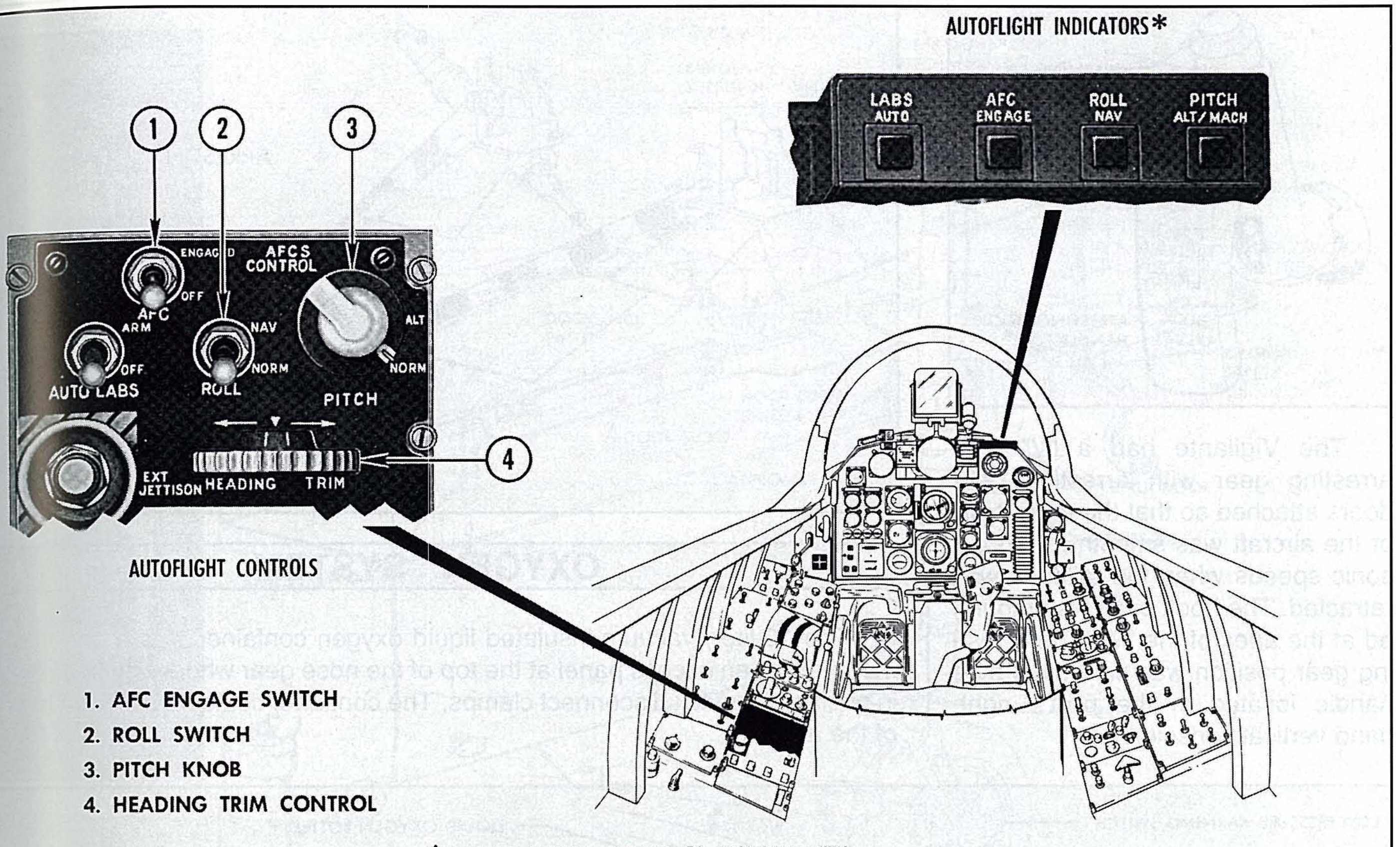




The AN/ASB-12 was composed of an inertial autonavigator, a navigational computer, a NASAR bombing computer and the general purpose radar set. The system provided navigation and aircraft positioning and was aidded by a closed circuit television set. Information was displayed on the PPDI and the pilot's HUD display.


* INERTIAL AUTONAVIGATOR
PRESENT POSITION, VELOCITY ATTITUDE
RADAR
ECM SYSTEM
GATE
TARGET SETTING
ANTENNA STABILIZATION, TARGET BEARING, TARGET SLANT RANGE
* ALTERNATE SYSTEM USES DOPPLER AUTONAVIGATOR
T V VIDEO AND SYNC
CLOSED CIRCUIT, TV. SCANNER
TARGET AZIMUTH AND PITCH
POSITION CORRECTION
BOMB RELEASE SIGNAL
FROM AIR DATA SYSTEM
TRUE AIRSPEED, NORMAL VELOCITY, BAROMETRIC ALTITUDE
TARGET BEARING
FROM MASTER FLIGHT REFERENCE SYSTEM
HEADING
PRESENT POSITION
STEERING SIGNAL
WIND SPEED AND DIRECTION
ALTITUDE
TRUE AIR SPEED
NORMAL VELOCITY
NAVIGATIONAL BOMBING COMPUTER SET
RANGE TO-GO
GROUND SPEED

A-5A AUTOFLIGHT CONTROLS AND INDICATORS


LABS AUTO
AFC ENGAGE
ROLL NAV
PITCH ALT/MACH
1
2
3
ENGAGED
AFCS CONTROL
OFF
AFC
ARM
NAV
ALT
OFF
AUTO LABS
ROLL
NORM
NORM
PITCH
EXT JETTISON
HEADING
TRIM
4

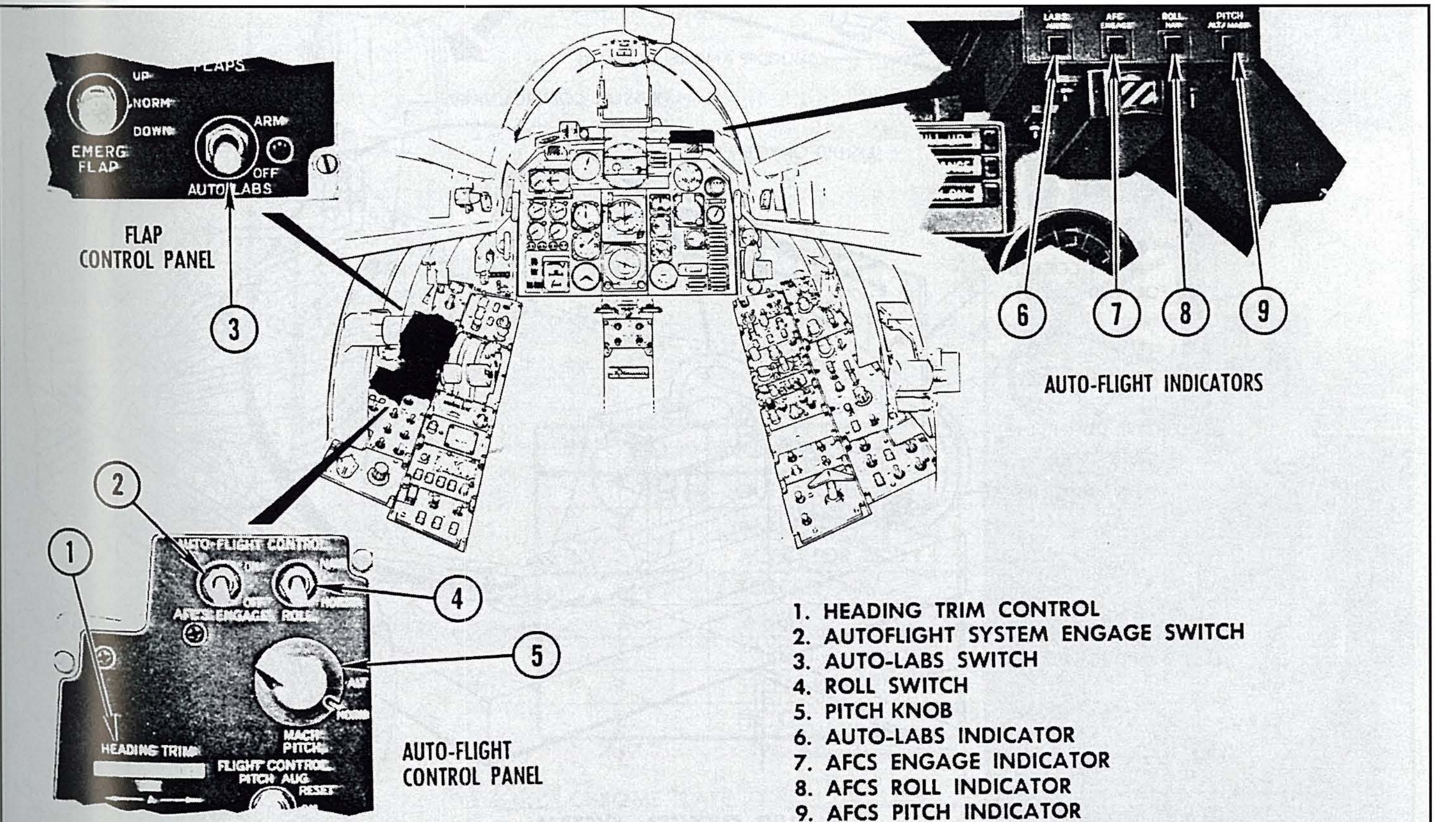
AUTOFLIGHT INDICATORS*

AUTOFLIGHT CONTROLS

1. AFC ENGAGE SWITCH
2. ROLL SWITCH
3. PITCH KNOB
4. HEADING TRIM CONTROL

*AIRCRAFT HAVING ASC NO. 58 COMPLIED WITH

RA-5C AUTOFLIGHT CONTROLS AND INDICATORS


FLAPS
UP
NORM
DOWN
EMERG FLAP
ARM
OFF
AUTO LABS
3
LABS AUTO
AFC ENGAGE
ROLL NAV
PITCH ALT/MACH
6
7
8
9
2
1
AUTO-FLIGHT CONTROL
AFCS ENGAGE
ROLL
4
5
ALT
NORM
HEADING TRIM
MACH PITCH
FLIGHT CONTROL PITCH AUG
RESET

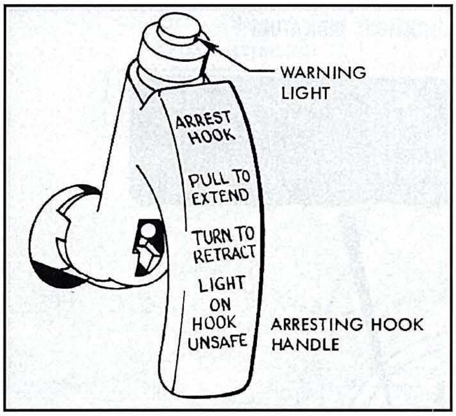
FLAP CONTROL PANEL

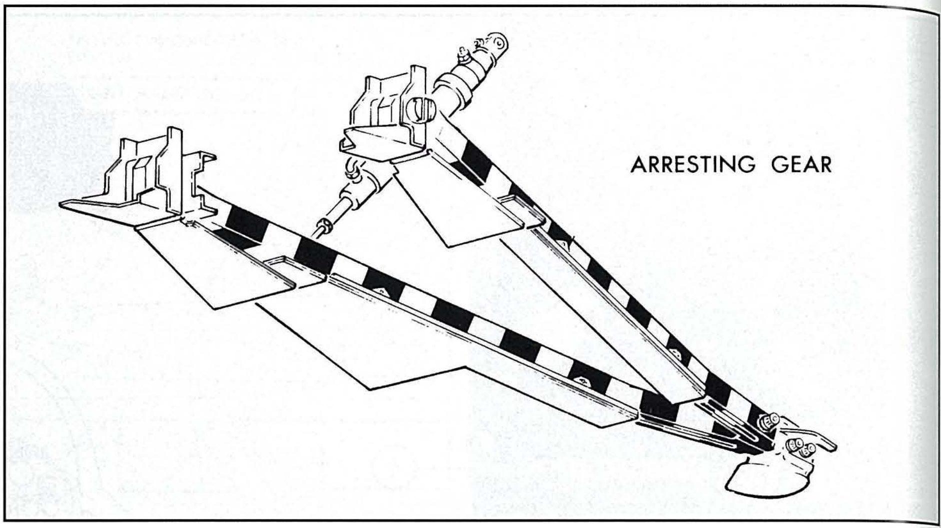
AUTO-FLIGHT INDICATORS

AUTO-FLIGHT CONTROL PANEL

1. HEADING TRIM CONTROL
2. AUTOFLIGHT SYSTEM ENGAGE SWITCH
3. AUTO-LABS SWITCH
4. ROLL SWITCH
5. PITCH KNOB
6. AUTO-LABS INDICATOR
7. AFCS ENGAGE INDICATOR
8. AFCS ROLL INDICATOR
9. AFCS PITCH INDICATOR

TAILHOOK ASSEMBLY

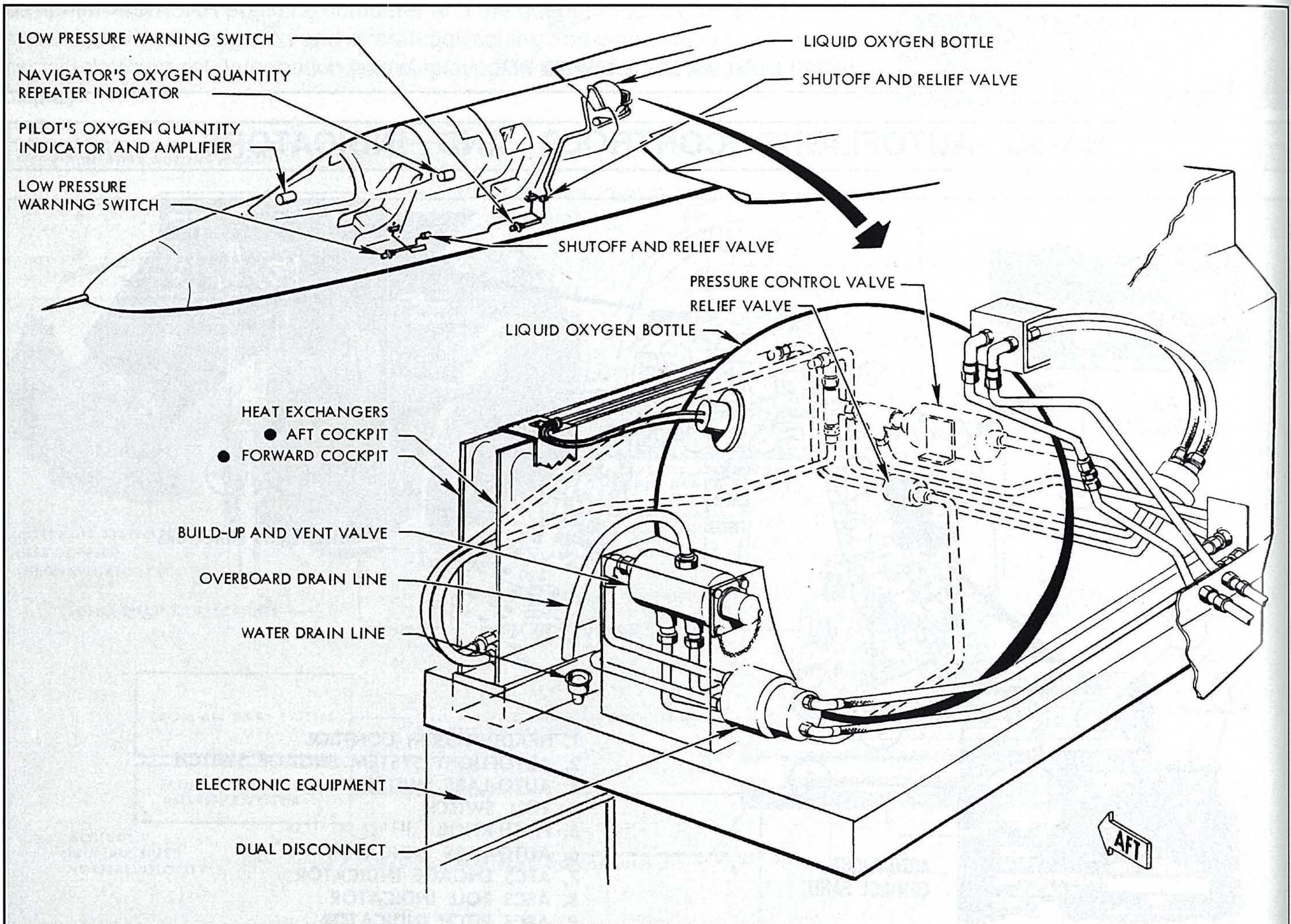

WARNING LIGHT
ARREST HOOK
PULL TO EXTEND
TURN TO RETRACT
LIGHT ON HOOK UNSAFE
ARRESTING HOOK HANDLE


ARRESTING GEAR

The Vigilante had a "V" type arresting gear with arresting gear doors attached so that the underbelly of the aircraft was smooth for supersonic speeds when the tailhook was retracted. The hook point was mounted at the apex of the "V". The arresting gear position was controlled by a handle located in the pilot's right-hand vertical console.

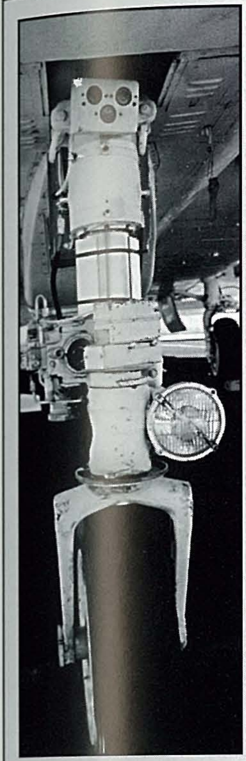
OXYGEN SYSTEM

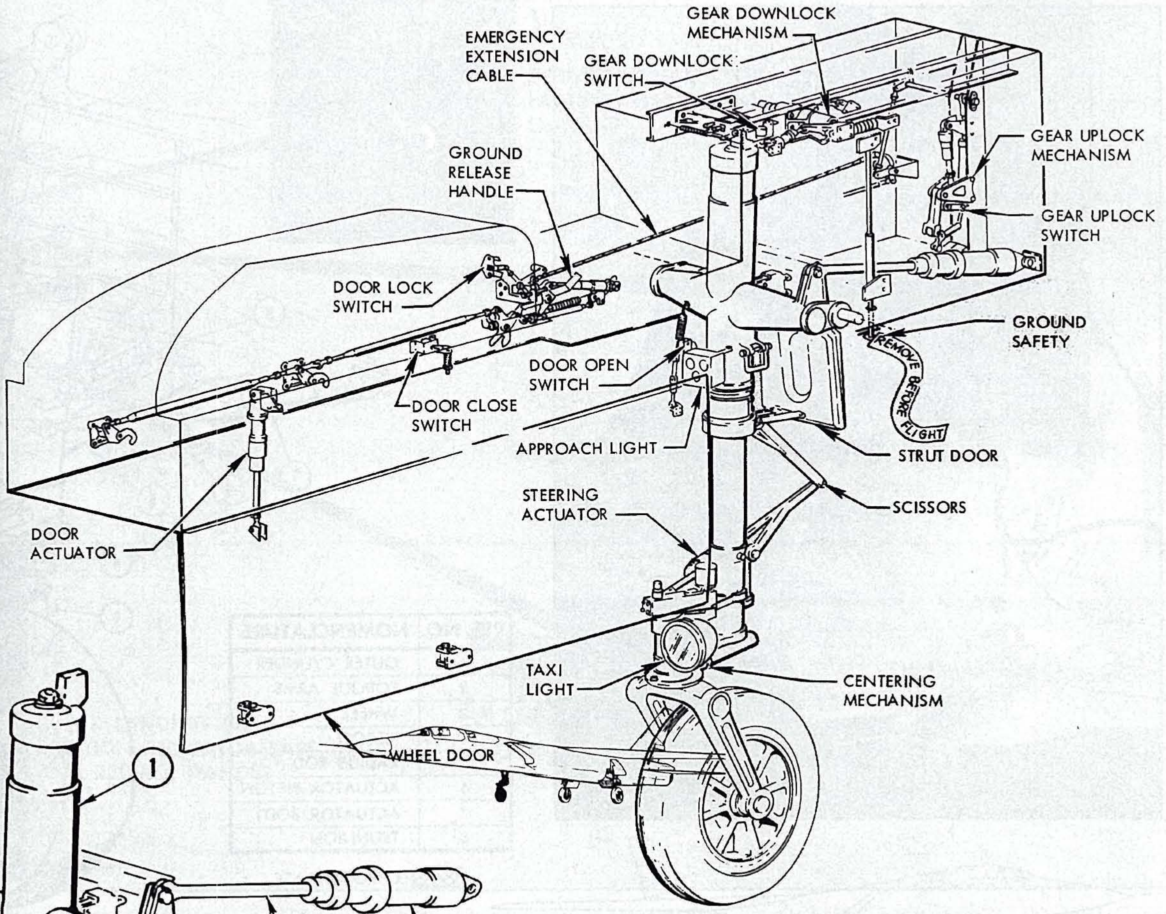
The 10-liter, vacuum-insulated liquid oxygen container was a portable unit mounted on an access panel at the top of the nose gear wheel well and retained in position by quick disconnect clamps. The container could be serviced in or out of the aircraft.

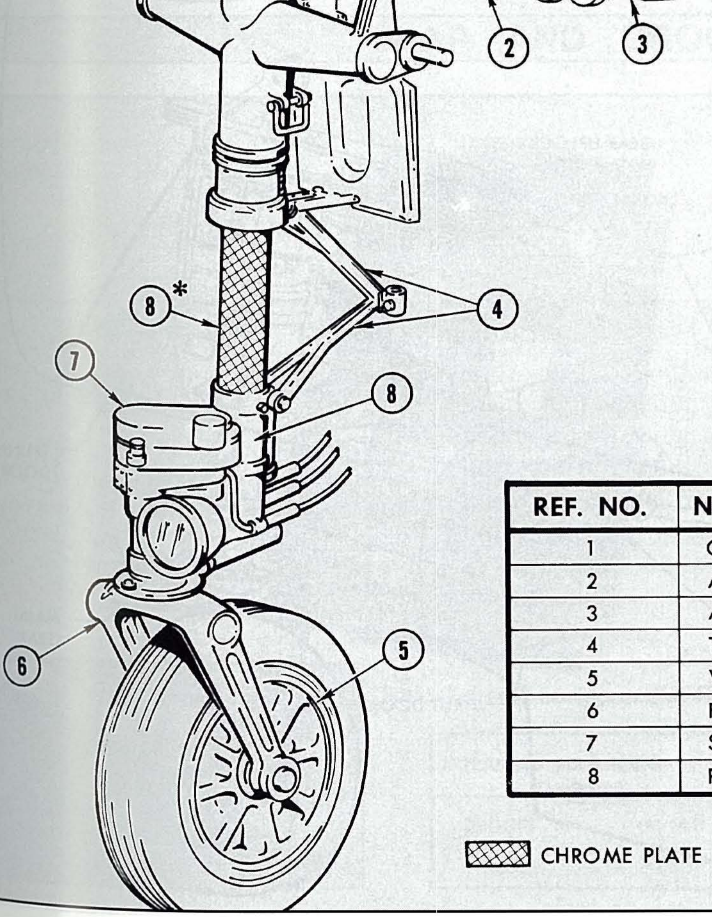

LOW PRESSURE WARNING SWITCH
NAVIGATOR'S OXYGEN QUANTITY REPEATER INDICATOR
PILOT'S OXYGEN QUANTITY INDICATOR AND AMPLIFIER
LOW PRESSURE WARNING SWITCH
LIQUID OXYGEN BOTTLE
SHUTOFF AND RELIEF VALVE
SHUTOFF AND RELIEF VALVE
PRESSURE CONTROL VALVE
RELIEF VALVE
LIQUID OXYGEN BOTTLE
HEAT EXCHANGERS
● AFT COCKPIT
● FORWARD COCKPIT
BUILD-UP AND VENT VALVE
OVERBOARD DRAIN LINE
WATER DRAIN LINE
ELECTRONIC EQUIPMENT
DUAL DISCONNECT
AFT

LIQUID OXYGEN SYSTEM

NOSE LANDING GEAR

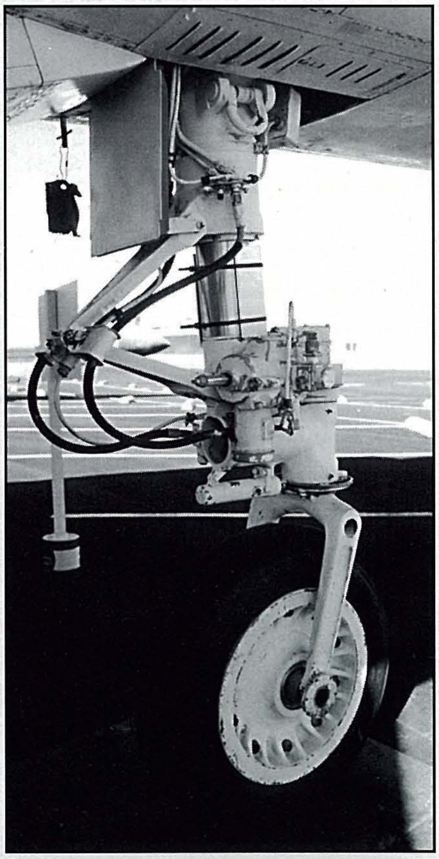


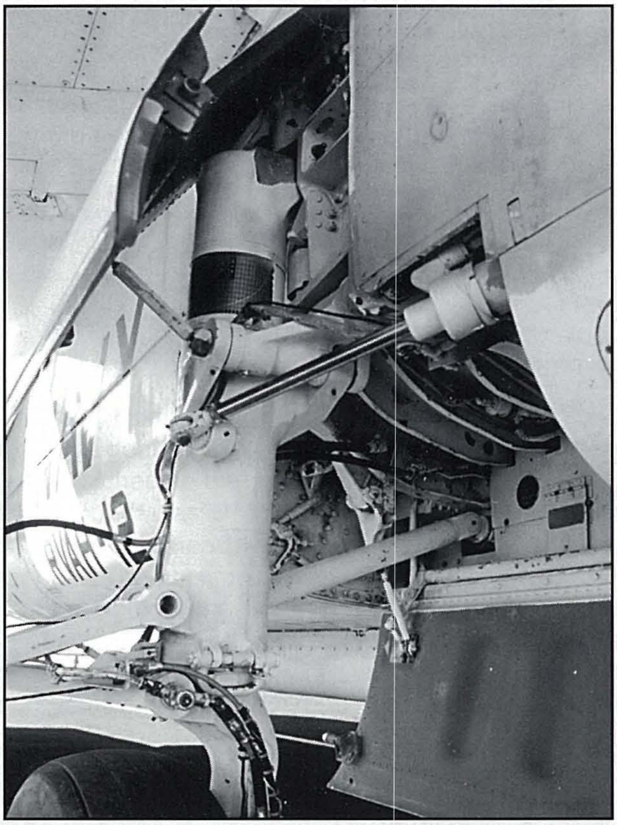

GEAR DOWNLOCK MECHANISM
EMERGENCY EXTENSION CABLE
GEAR DOWNLOCK SWITCH
GEAR UPLOCK MECHANISM
GROUND RELEASE HANDLE
GEAR UPLOCK SWITCH
DOOR LOCK SWITCH
GROUND SAFETY
REMOVE BEFORE FLIGHT
DOOR OPEN SWITCH
DOOR CLOSE SWITCH
APPROACH LIGHT
STRUT DOOR
SCISSORS
STEERING ACTUATOR
DOOR ACTUATOR
TAXI LIGHT
CENTERING MECHANISM
WHEEL DOOR

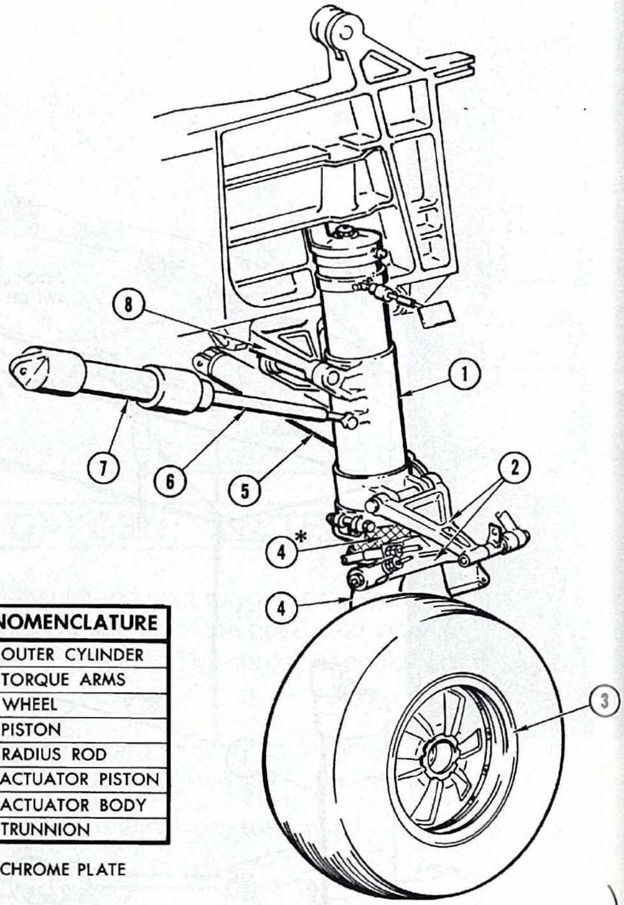


REF. NO.	NOMENCLATURE
1	OUTER CYLINDER
2	ACTUATOR PISTON
3	ACTUATOR BODY
4	TORQUE ARMS
5	WHEEL
6	FORK
7	STEERING UNIT
8	PISTON

▨ CHROME PLATE

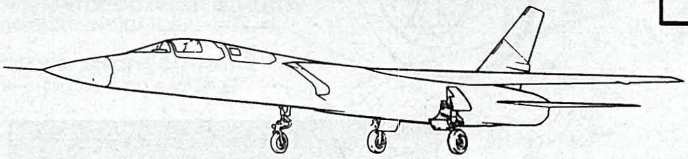


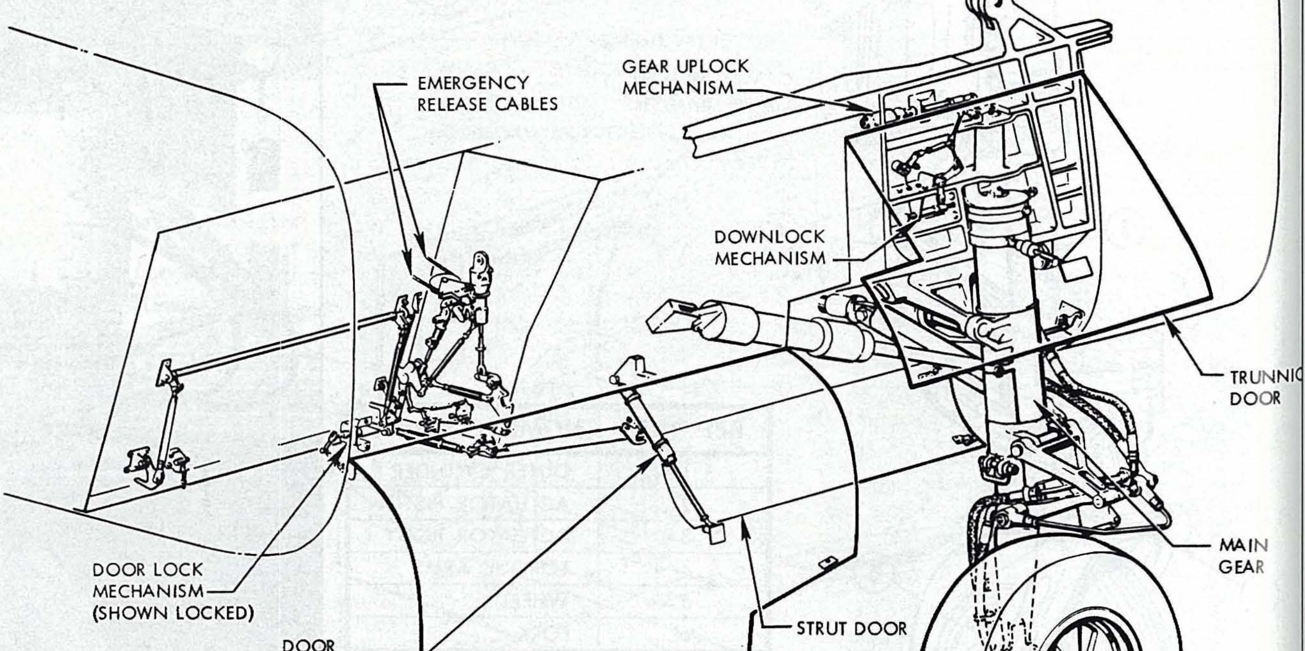




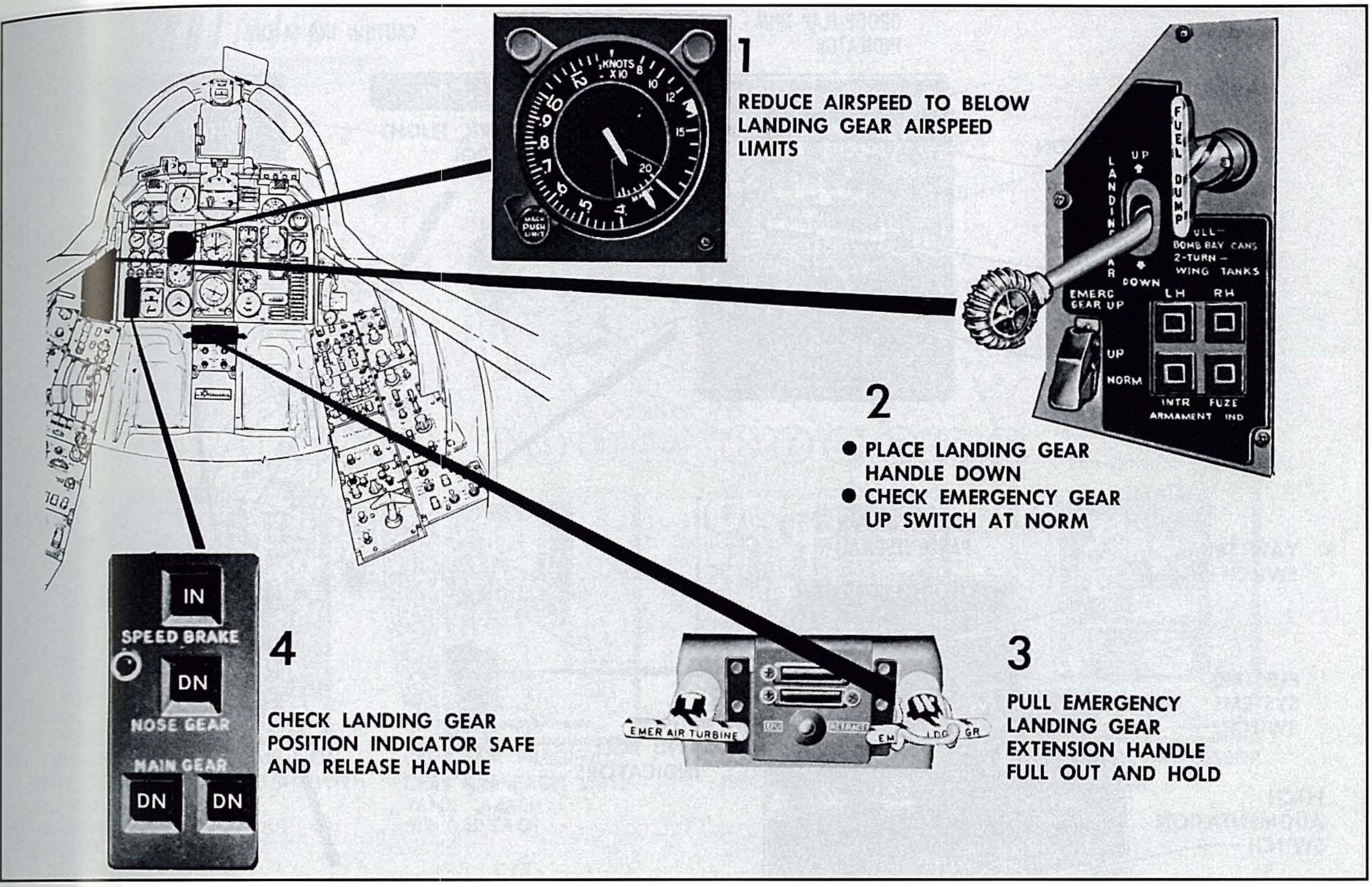
REF. NO.	NOMENCLATURE
1	OUTER CYLINDER
2	TORQUE ARMS
3	WHEEL
4	PISTON
5	RADIUS ROD
6	ACTUATOR PISTON
7	ACTUATOR BODY
8	TRUNNION

▨ CHROME PLATE




EMERGENCY
RELEASE CABLES
GEAR UPLOCK
MECHANISM
DOWNLOCK
MECHANISM
TRUNNI
DOOR
MAIN
GEAR
DOOR LOCK
MECHANISM
(SHOWN LOCKED)
STRUT DOOR
DOOR
ACTUATOR
WHEEL DOOR

EMERGENCY LANDING GEAR EXTENSION


KNOTS X10
MACH PUSH LIMIT
LANDING GEAR
UP
DOWN
FUEL DUMP
FULL-BOMB BAY CANS 2-TURN - WING TANKS
LH
RH
EMERG GEAR UP
UP
NORM
INTR
FUZE
ARMAMENT IND
IN
SPEED BRAKE
DN
NOSE GEAR
MAIN GEAR
DN
DN
EMER AIR TURBINE
RETRACT
EM LDG GR

1

REDUCE AIRSPEED TO BELOW LANDING GEAR AIRSPEED LIMITS

2

- PLACE LANDING GEAR HANDLE DOWN
- CHECK EMERGENCY GEAR UP SWITCH AT NORM

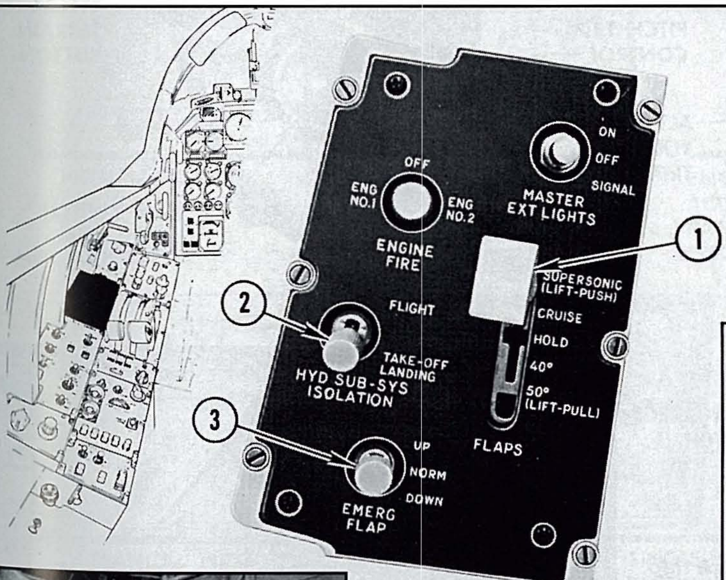
3

PULL EMERGENCY LANDING GEAR EXTENSION HANDLE FULL OUT AND HOLD

4

CHECK LANDING GEAR POSITION INDICATOR SAFE AND RELEASE HANDLE

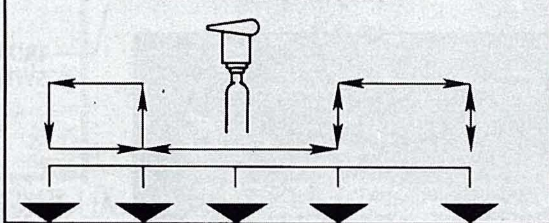
FLAP AND DROOP CONTROLS


ON
OFF
SIGNAL
MASTER EXT LIGHTS
OFF
ENG NO.1
ENG NO.2
ENGINE FIRE
①
SUPERSONIC (LIFT-PUSH)
CRUISE
HOLD
40°
50° (LIFT-PULL)
FLAPS
②
FLIGHT
TAKE-OFF LANDING
HYD SUB-SYS ISOLATION
③
UP
NORM
DOWN
EMERG FLAP

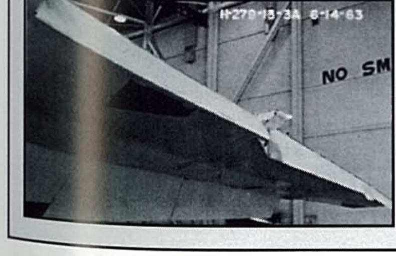
1. FLAP AND DROOP CONTROL SWITCH
2. HYDRAULIC SUB-SYSTEMS ISOLATION SWITCH
3. EMERGENCY FLAP SWITCH

The trailing edge wing flaps were electrically controlled and hydraulically operated by #2 hydraulic system pressure. Flap synchronization was provided through a mechanical interconnect.

FLAP SWITCH OPERATION

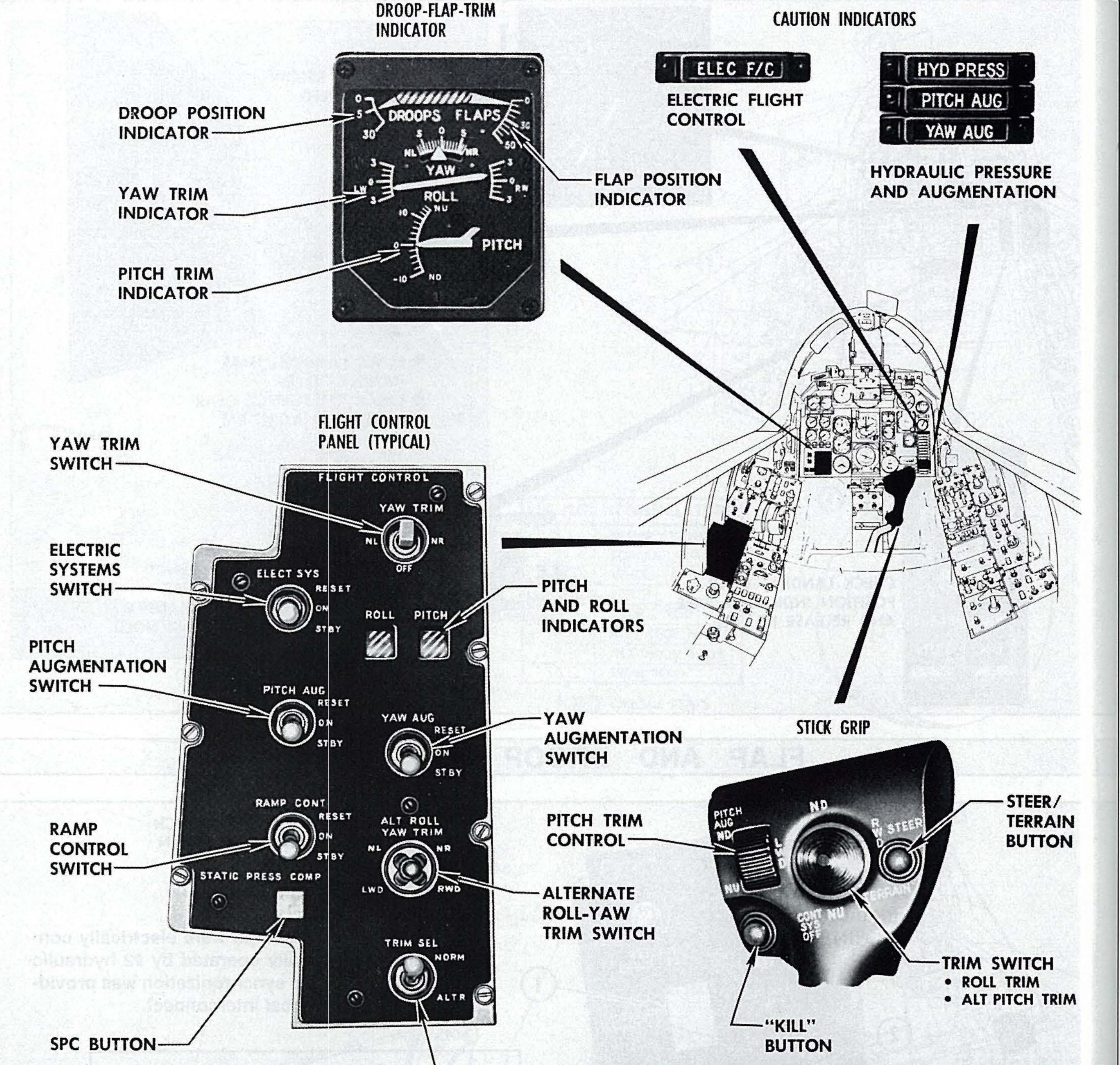


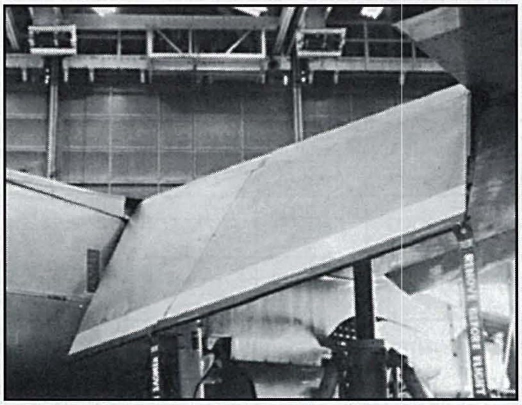
	50°	40°	HOLD	CRUISE	SUPERSONIC
TRAILING EDGE FLAPS	50°	40°	0 — 50°	0°	0°
DROOPS — IN/MID	25.5°	25.5°	INTER	3°	0°
OUT-BD	38.5°	38.5°	INTER	5°	0°


H270-13-3A 6-14-63
NO SM

RA-5C droop surfaces. (MFR)

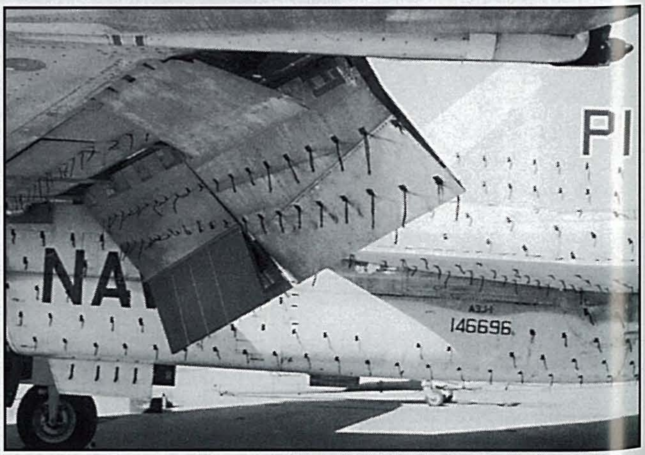
FLIGHT CONTROLS AND INDICATORS


DROOP-FLAP-TRIM INDICATOR
DROOP POSITION INDICATOR
YAW TRIM INDICATOR
PITCH TRIM INDICATOR
DROOPS
FLAPS
YAW
ROLL
PITCH
NL
NR
LW
RW
NU
ND
CAUTION INDICATORS
ELEC F/C
ELECTRIC FLIGHT CONTROL
HYD PRESS
PITCH AUG
YAW AUG
HYDRAULIC PRESSURE AND AUGMENTATION
FLAP POSITION INDICATOR
FLIGHT CONTROL PANEL (TYPICAL)
FLIGHT CONTROL
YAW TRIM
OFF
ELECT SYS
RESET
ON
STBY
ROLL
PITCH
PITCH AUG
YAW AUG
RAMP CONT
ALT ROLL YAW TRIM
LWD
RWD
STATIC PRESS COMP
TRIM SEL
NORM
ALTR
YAW TRIM SWITCH
ELECTRIC SYSTEMS SWITCH
PITCH AUGMENTATION SWITCH
RAMP CONTROL SWITCH
SPC BUTTON
PITCH AND ROLL INDICATORS
YAW AUGMENTATION SWITCH
ALTERNATE ROLL-YAW TRIM SWITCH
TRIM SELECT SWITCH
STICK GRIP
PITCH TRIM CONTROL
STEER/ TERRAIN BUTTON
TRIM SWITCH
• ROLL TRIM
• ALT PITCH TRIM
"KILL" BUTTON
CONT SYS OFF
STEER
TERRAIN



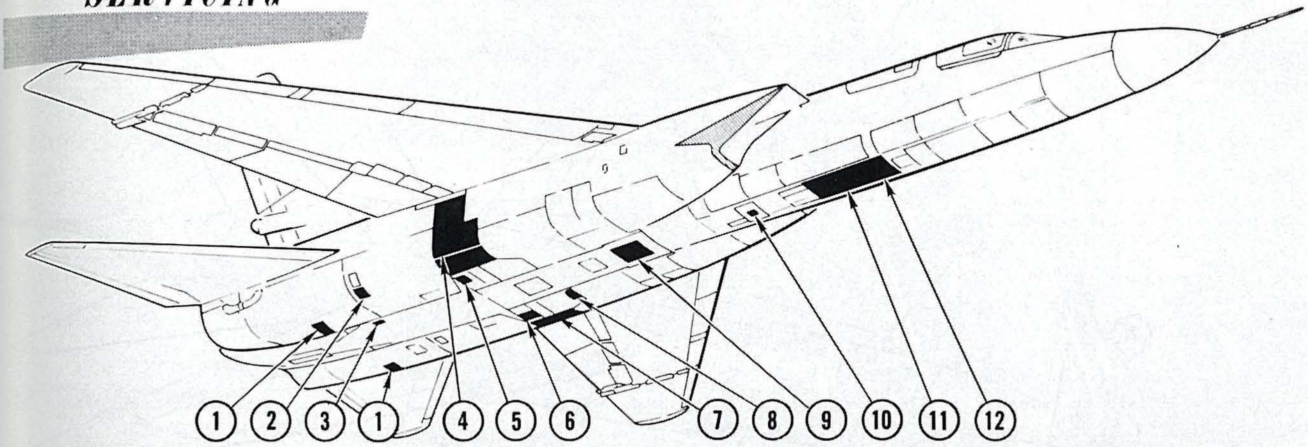
At left, A-5A flap.

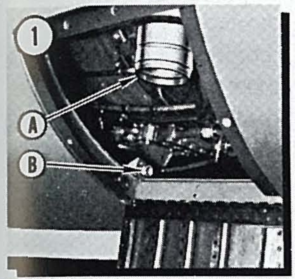
At right, RA-5C flaps.


PI
NA
146696

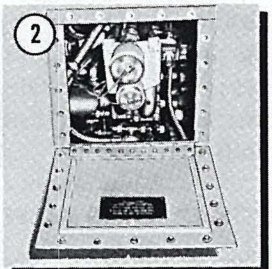
SERVICING COMPARTMENTS

SERVICING

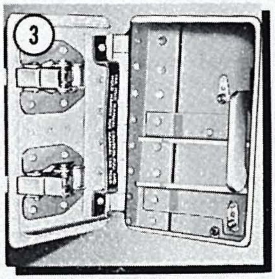




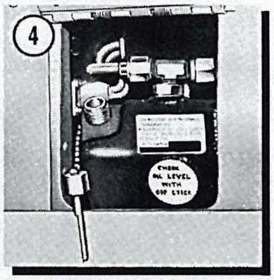
GROUND STARTING AIR CONNECTION (RIGHT SIDE SHOWN)
A. AIR CONNECTION
B. REMOTE START CUT-OUT ELECTRIC CONNECTOR



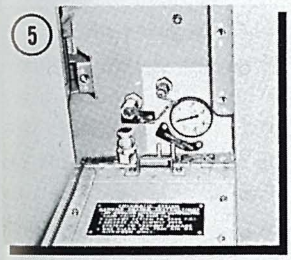
OIL TANK FILLER ACCESS (ON EACH SIDE)
TANK CAPACITY
5.2 GAL EACH



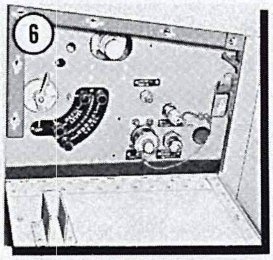
MANUAL TAIL FOLD ACCESS DOOR



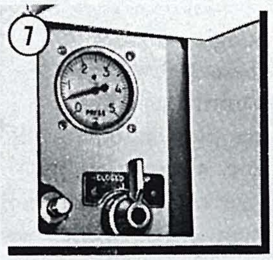
PNEUMATIC COMPRESSOR OIL RESERVOIR



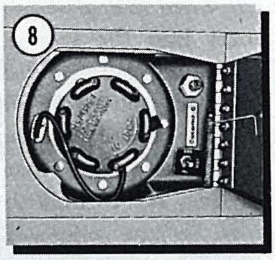
PNEUMATIC SYSTEM SERVICE PANEL
PRECHARGE —
2800 TO 3200 PSI



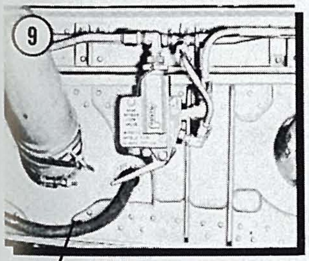
HYDRAULIC SYSTEMS SERVICE PANEL
NO. 1 RES — 2.31 GAL
NO. 2 RES — 5.67 GAL



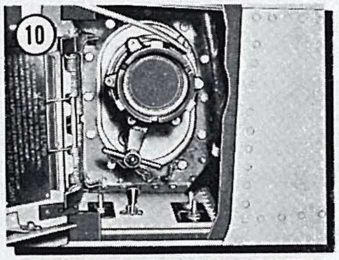
EMERGENCY BRAKE ACCUMULATOR SERVICE PANEL (LEFT GEAR WELL)
PRECHARGE — 1000 PSI



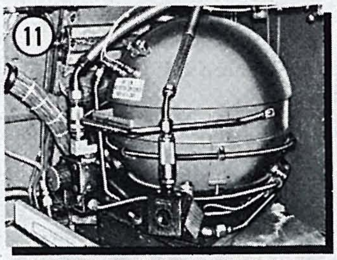
AFT GROUND REFUELING RECEPTACLE
(SUMP, AFT AND BOMB BAY TANKS ONLY)



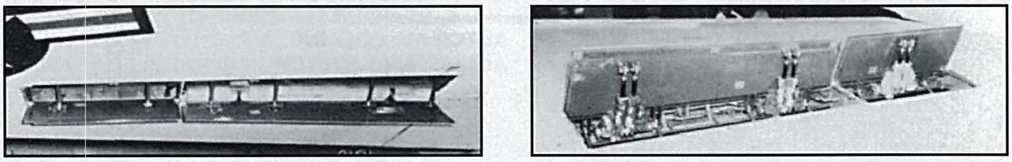
MANUAL WING FOLD VALVE
A-5A ONLY



FORWARD (SINGLE-POINT) REFUELING RECEPTACLE

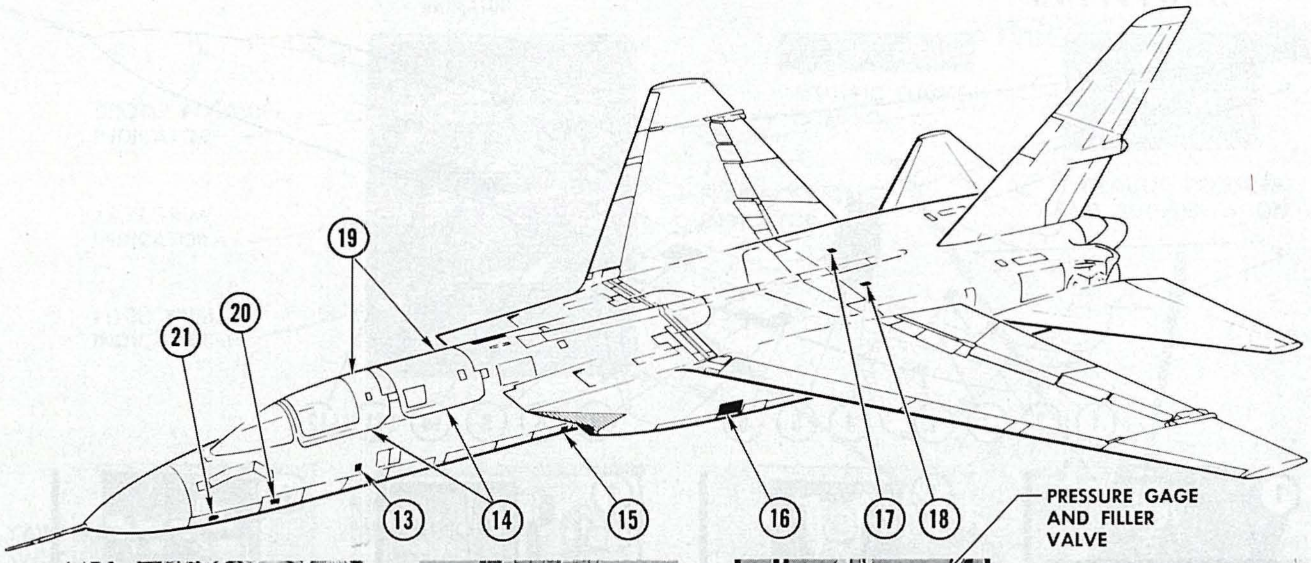


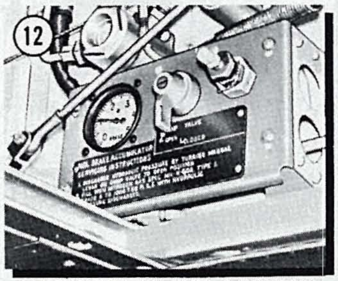
LIQUID OXYGEN SERVICE
10 LITERS EACH CONVERTER



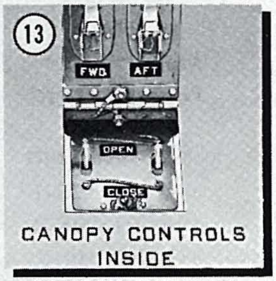
At right, underwing deflector spoilers. At far right, upper surface spoilers. (MFR)

SERVICING COMPARTMENTS

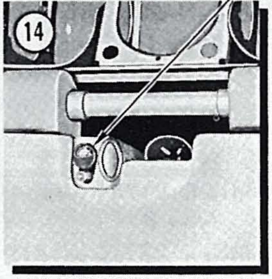

19
20
21
13
14
15
16
17
18



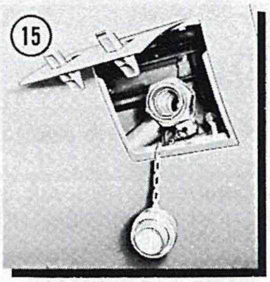
AUXILIARY BRAKE ACCUMULATOR SERVICE PANEL
PRECHARGE — 800 PSI


13
FWD
AFT
OPEN
CLOSE
CANOPY CONTROLS INSIDE

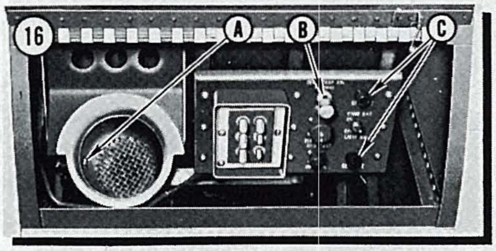
CANOPY EXTERNAL TOGGLES


14
PRESSURE GAGE AND FILLER VALVE

EMERGENCY OXYGEN
(BOTH COCKPITS)
1800 TO 2200 PSI

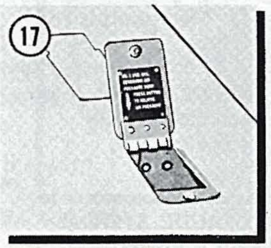


PRESSURE SUIT EXTERNAL SERVICE ACCESS

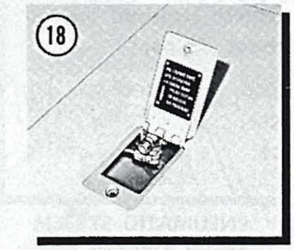


EXTERNAL ELECTRICAL POWER AND EQUIPMENT COOLING RECEPTACLES

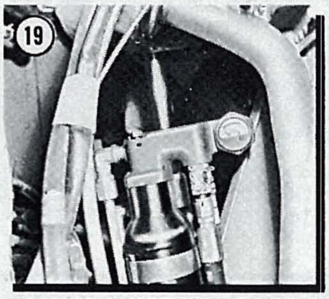
A. COOLING AIR HOSE SWITCH
B. GEAR DOOR SWITCH
C. GENERATOR-ON LIGHTS



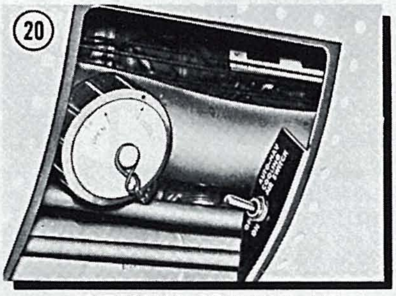
NO. 2 HYDRAULIC RESERVOIR SIGHT GAGE ACCESS



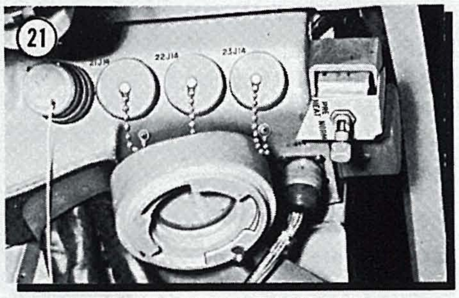
NO. 1 HYDRAULIC RESERVOIR SIGHT GAGE ACCESS



CANOPY JETTISON GAGES
PRECHARGE — 2800 PSI

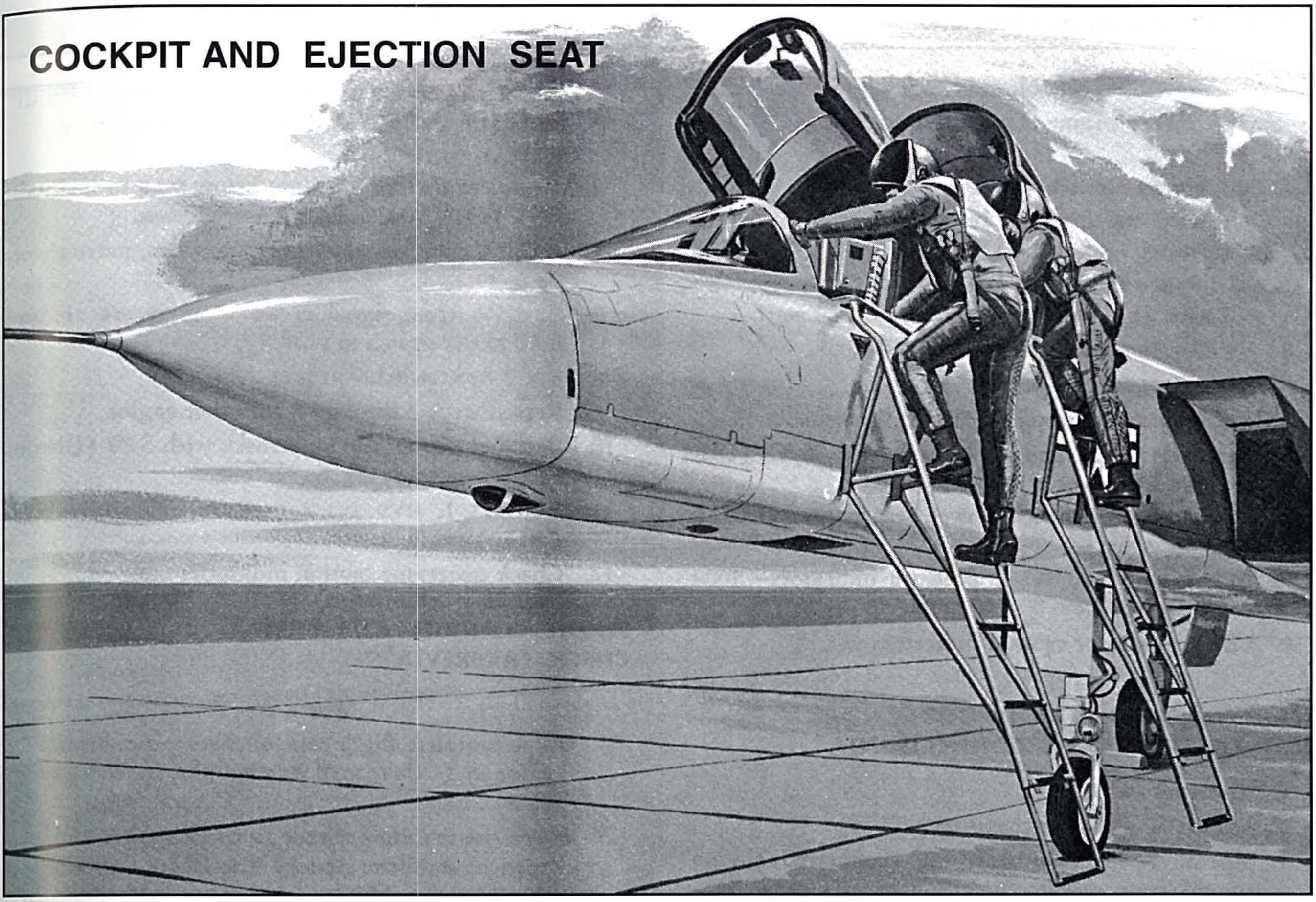


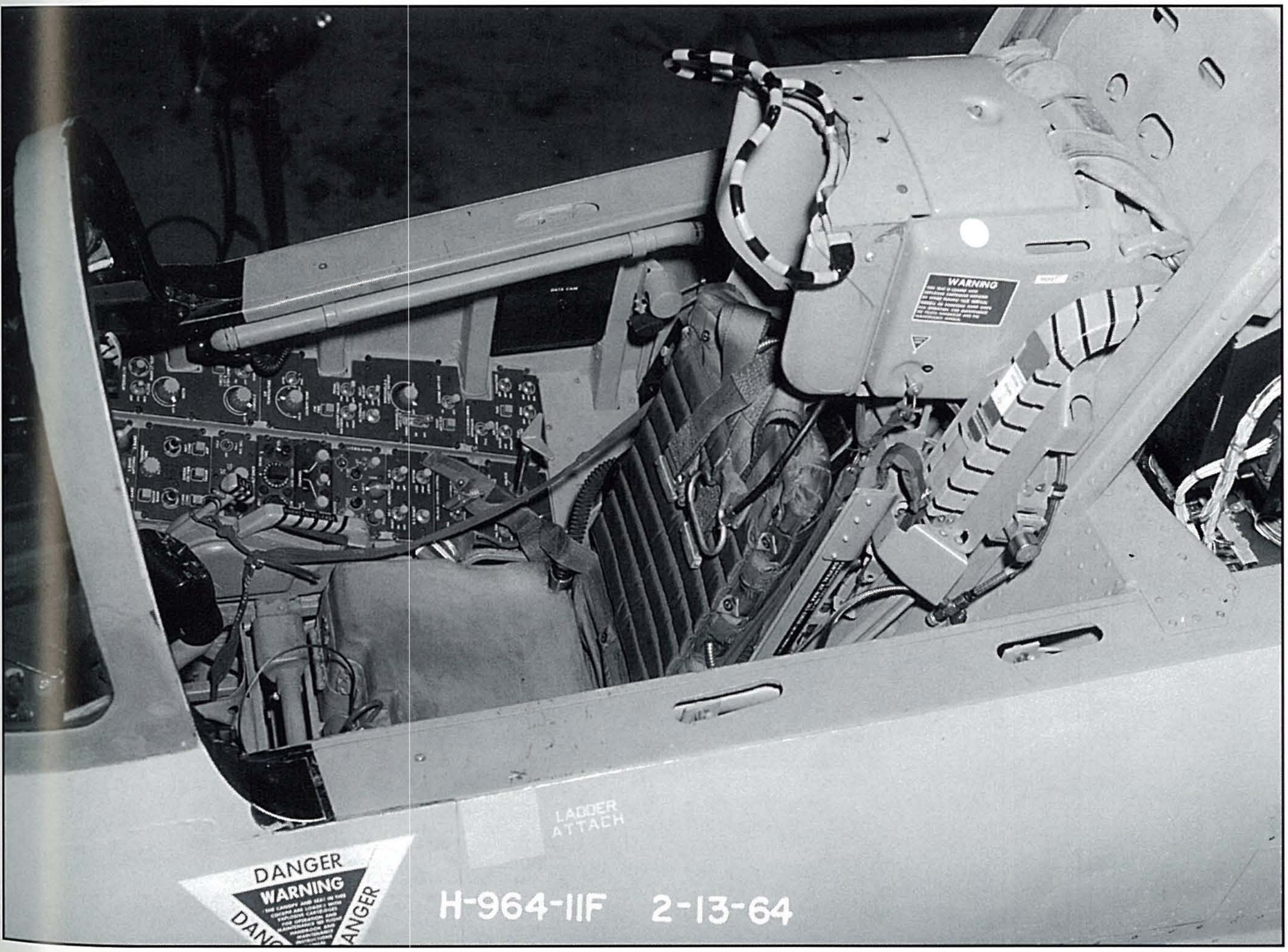
AUTONAV COOLING AIR ACCESS AND SWITCH


21
21J14
22J14
23J14

AUTONAV (CHIN PACK) AIR AND PRE-HEAT SWITCH ACCESS
(AFC 112 COMPLIED WITH)

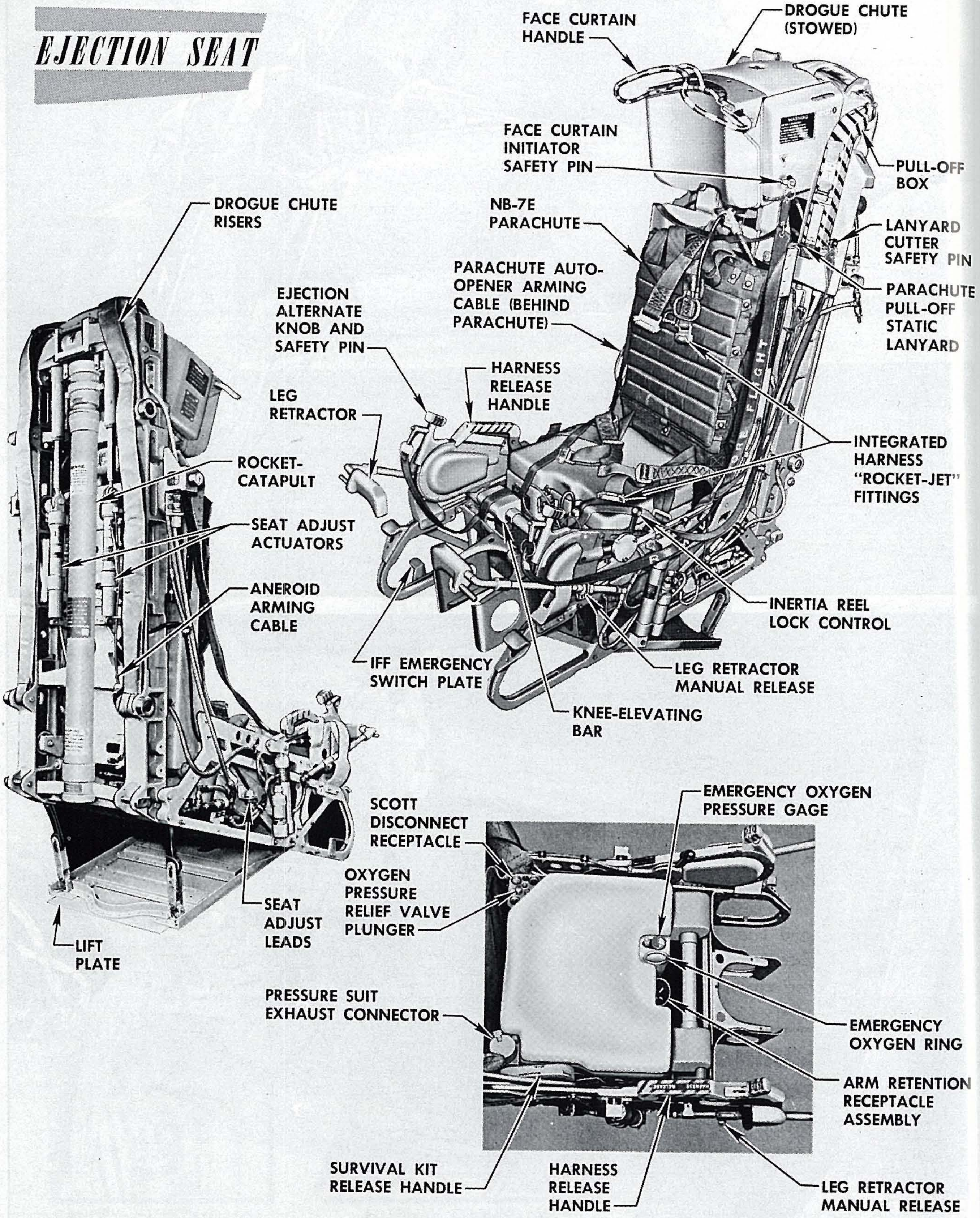
COCKPIT AND EJECTION SEAT



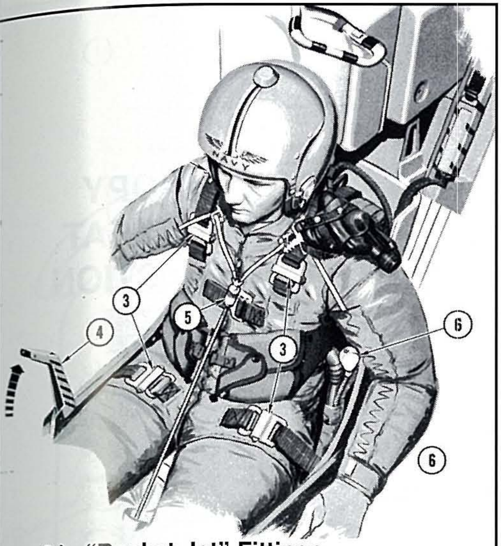

WARNING
LADDER ATTACH
DANGER
WARNING
DANGER
DANGER
H-964-11F 2-13-64

EJECTION SEATS

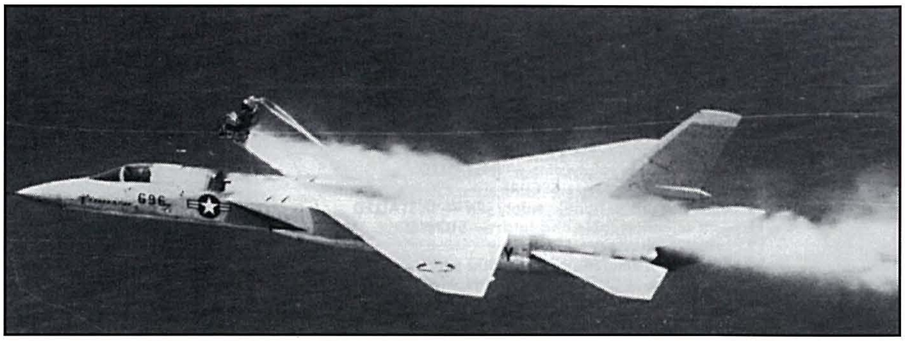
EJECTION SEAT


FACE CURTAIN HANDLE
DROGUE CHUTE (STOWED)
FACE CURTAIN INITIATOR SAFETY PIN
PULL-OFF BOX
NB-7E PARACHUTE
LANYARD CUTTER SAFETY PIN
PARACHUTE AUTO-OPENER ARMING CABLE (BEHIND PARACHUTE)
PARACHUTE PULL-OFF STATIC LANYARD
DROGUE CHUTE RISERS
EJECTION ALTERNATE KNOB AND SAFETY PIN
HARNESS RELEASE HANDLE
LEG RETRACTOR
ROCKET-CATAPULT
INTEGRATED HARNESS "ROCKET-JET" FITTINGS
SEAT ADJUST ACTUATORS
ANEROID ARMING CABLE
INERTIA REEL LOCK CONTROL
IFF EMERGENCY SWITCH PLATE
LEG RETRACTOR MANUAL RELEASE
KNEE-ELEVATING BAR
EMERGENCY OXYGEN PRESSURE GAGE
SCOTT DISCONNECT RECEPTACLE
OXYGEN PRESSURE RELIEF VALVE PLUNGER
SEAT ADJUST LEADS
LIFT PLATE
PRESSURE SUIT EXHAUST CONNECTOR
EMERGENCY OXYGEN RING
ARM RETENTION RECEPTACLE ASSEMBLY
SURVIVAL KIT RELEASE HANDLE
HARNESS RELEASE HANDLE
LEG RETRACTOR MANUAL RELEASE

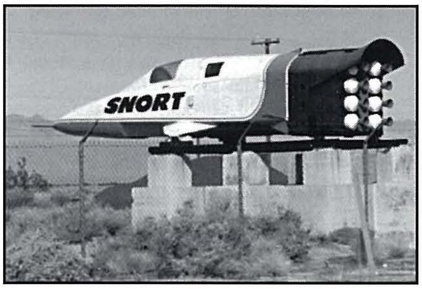
EJECTION SEATS

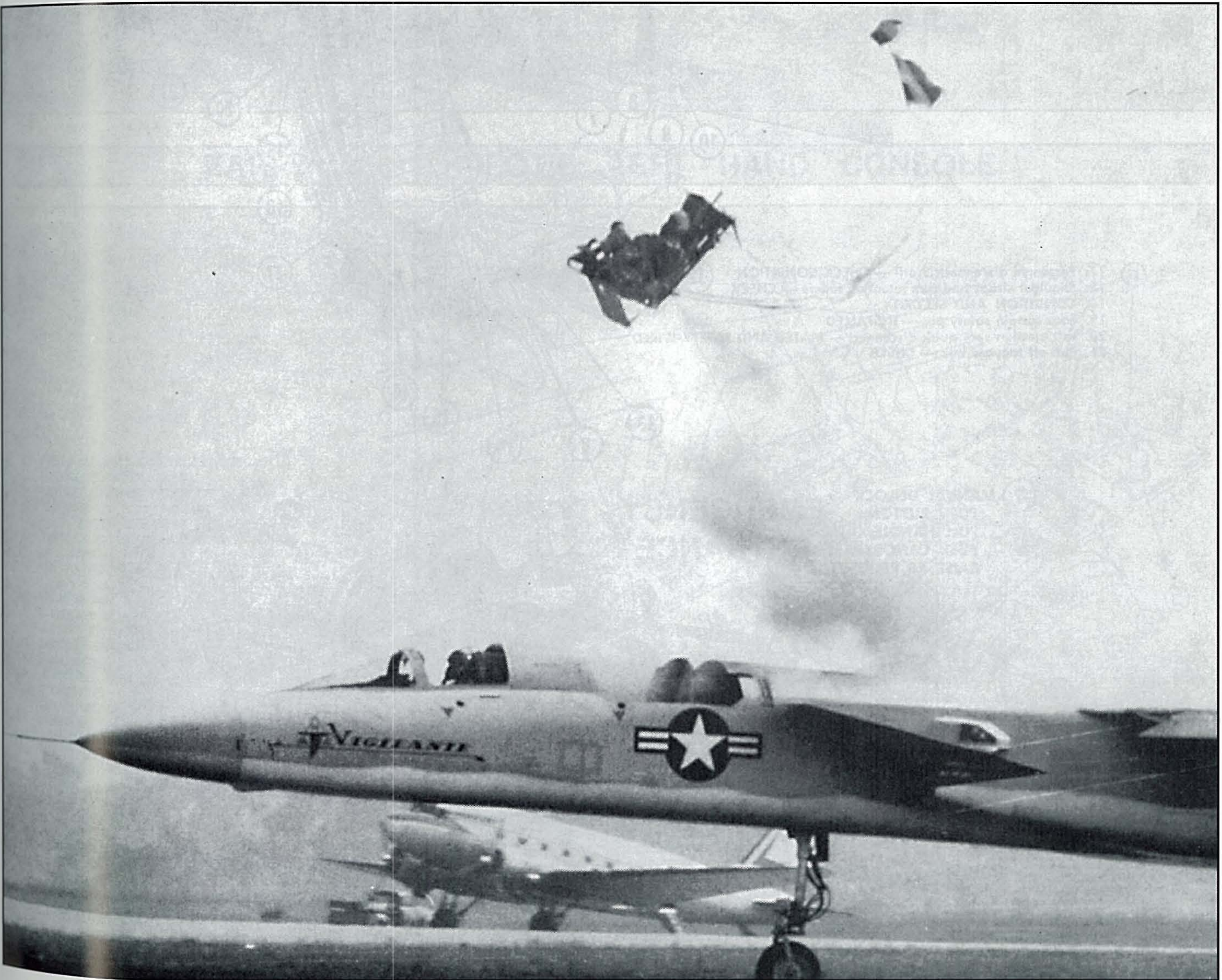


3.) "Rocket-Jet" Fittings
4.) Harness Release Handle
5.) Arm Retention Cable
6.) Personal Disconnect



Above, in-flight ejection seat tests of the HS-1 in BuNo 146696. (USN) At right, Vigilante ejection seat rocket sled "Snort" in outdoor storage at China Lake, CA, in October 1984. Colors were white-red-blue. (Ginter) Below, HS-1A ejection seat test at Zero airspeed. The HS-1 seat required a 100 kt airspeed for a safe ejection; the HS-1A was a zero-zero seat. (USN)





CANOPY AND SEAT INSPECTION

APPLICABLE TO BOTH COCKPITS

1. Canopy uplock — ENGAGED
2. Thermal radiation shield — CHECK CONDITION
3. Sun visor and standby compass — CHECK CONDITION
4. Face curtain handle — STOWED
5. Canopy emergency air bottle — 2800 psi (minimum) (Pilot — right side) (B/N — left side)
6. Right ejection seat quick disconnect — MATED AND SAFETY-WIRED
7. Ditching handle — DOWN AND SECURE
8. Ejection knob safety pins — INSTALLED
9. Right leg retractor — SECURE
10. Canopy jettison handle safety pin — INSTALLED
11. Arm retention cable and latch — STOWED
12. Left leg retractor — SECURE
13. Emergency oxygen gage — 1800 psi
14. Lap straps — CHECK CONDITION AND SECURITY (Pull straps to check seat kit securely retained)
15. Shoulder harness lock handle — UNLOCK
16. Pull parachute pack forward and check:

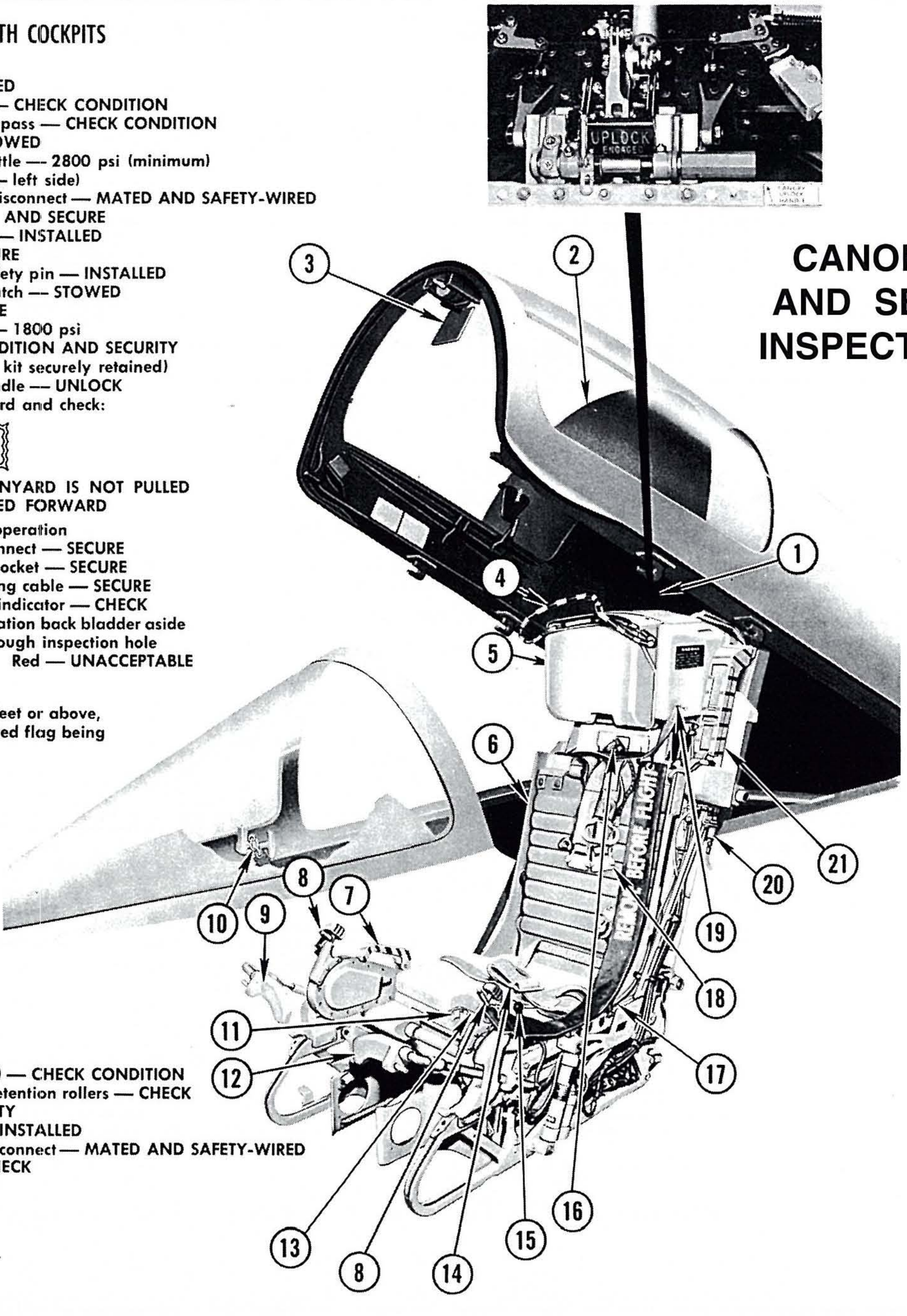
CAUTION

BE SURE PULL-OFF LANYARD IS NOT PULLED WHEN CHUTE IS TILTED FORWARD

(a) Shoulder harness lock operation
(b) Shoulder harness disconnect — SECURE
(c) Pull-off static lanyard pocket — SECURE
(d) Parachute opener arming cable — SECURE
(e) Aneroid power device indicator — CHECK (Pull right side of separation back bladder aside and check indicator through inspection hole
White — SAFE Red — UNACCEPTABLE

NOTE:

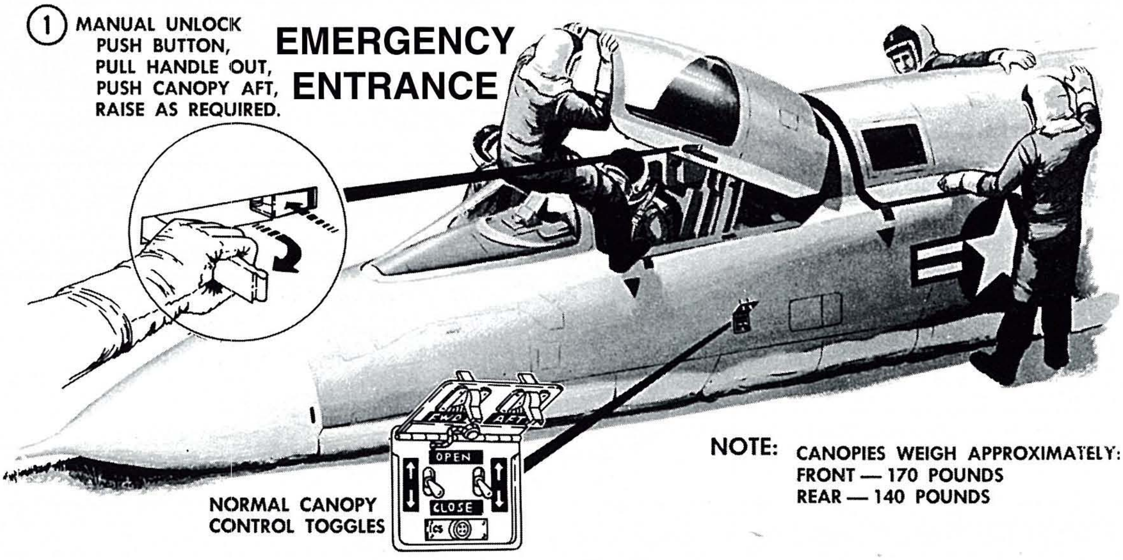
At elevations of 5000 feet or above, a small portion of the red flag being visible is acceptable



17. Personnel disconnect (Scott) — CHECK CONDITION
18. Shoulder straps and arm retention rollers — CHECK CONDITION AND SECURITY
19. Face curtain safety pin — INSTALLED
20. Left ejection seat quick disconnect — MATED AND SAFETY-WIRED
21. Pull-off lanyard box — CHECK

EMERGENCY ENTRANCE

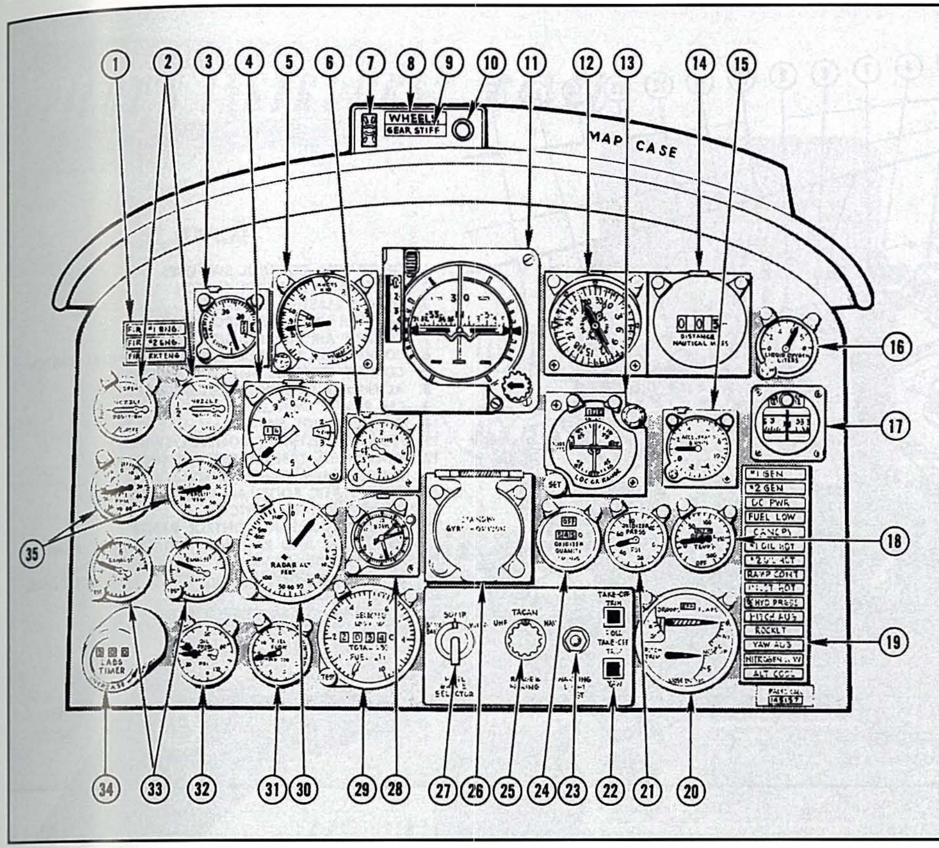
① MANUAL UNLOCK PUSH BUTTON, PULL HANDLE OUT, PUSH CANOPY AFT, RAISE AS REQUIRED.



NORMAL CANOPY CONTROL TOGGLES

NOTE: CANOPIES WEIGH APPROXIMATELY:
FRONT — 170 POUNDS
REAR — 140 POUNDS

EARLY A3J-1 PILOT'S INSTRUMENT PANEL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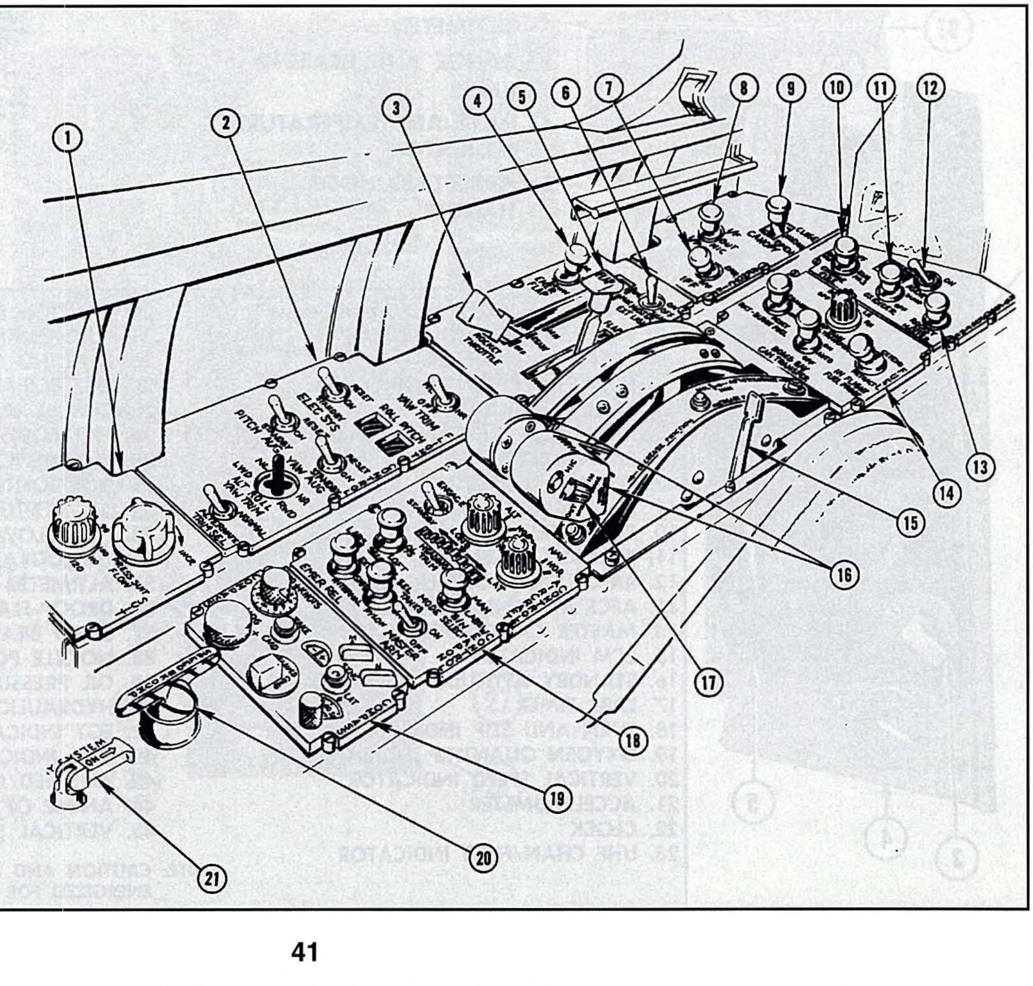
WHEELS
GEAR STIFF
MAP CASE
DISTANCE NAUTICAL MILES
STANDBY GYRO HORIZON
RADAR ALT FEET
LABS TIMER
TACAN
TAKE-OFF TRIM
#1 GEN
#2 GEN
DC PWR
FUEL LOW
CANOPY
OIL HOT
HYD PRESS
PITCH AUG
ROCKET
YAW AUG
ALT COOL

1. ENGINE FIRE WARNING LIGHTS
2. EXHAUST NOZZLE POSITION INDICATORS
3. ANGLE-OF-ATTACK INDICATOR
4. BAROMETRIC ALTIMETER
5. AIR SPEED AND MACH NUMBER INDICATOR
6. RATE-OF-CLIMB INDICATOR
7. FLIGHT INDEXER
8. WHEELS WARNING LIGHT
9. GEAR STIFF LIGHT
10. LABS INDICATOR
11. ALL ATTITUDE INDICATOR
12. RADIO MAGNETIC INDICATOR
13. COURSE INDICATOR
14. RANGE INDICATOR
15. ACCELEROMETER
16. LIQUID OXYGEN QUANTITY INDICATOR
17. STANDBY MAGNETIC COMPASS
18. OXIDIZER TEMPERATURE INDICATOR
19. ADVISORY LIGHT PANEL
20. DROOPS, FLAPS AND PITCH TRIM INDICATOR
21. OXIDIZER PRESSURE INDICATOR
22. TAKE-OFF TRIM INDICATORS
23. WARNING LIGHT TEST SWITCH
24. OXIDIZER QUANTITY INDICATOR
25. RANGE AND BEARING SELECTOR
26. STANDBY GYRO HORIZON
27. FUEL GAUGE SELECTOR SWITCH
28. EIGHT DAY CLOCK
29. FUEL QUANTITY INDICATOR
30. RADAR ALTIMETER LOW ALTITUDE INDICATOR
31. FUEL FLOW INDICATOR
32. OIL PRESSURE INDICATOR
33. EXHAUST GAS TEMPERATURE INDICATORS
34. LABS TIMER
35. TACHOMETERS

EARLY A3J-1 PILOT'S LEFT - HAND CONSOLE

1. PRESSURE SUIT CONTROL PANEL
2. FLIGHT CONTROL PANEL
3. ROCKET ENGINE THROTTLE
4. EMERGENCY FLAP SWITCH
5. FLAP DROOP CONTROL HANDLE
6. MASTER EXTERIOR LIGHTS SWITCH
7. IFF SWITCH
8. I/P SWITCH
9. CANOPY SWITCH
10. ENGINE FIRE SWITCH
11. OXIDIZER DUMP SWITCH
12. AGENT SWITCH
13. ROCKET ENGINE MASTER SWITCH
14. FUEL CONTROL PANEL
15. THROTTLE FRICTION CONTROL
16. THROTTLES
17. SPEED BRAKE SWITCH
18. AIRCRAFT AND WEAPONS CONTROL PANEL
19. COMPASS CONTROL PANEL
20. SPEED BRAKE DUMP HANDLE
21. OXYGEN SYSTEM SUPPLY VALVE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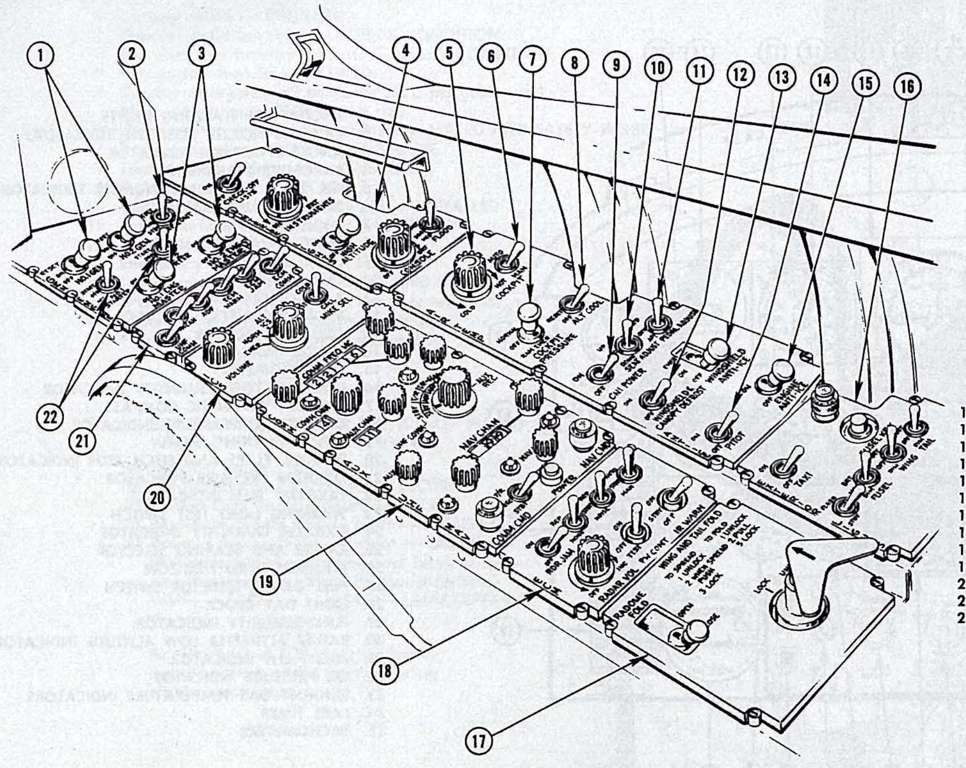
ROCKET THROTTLE
PITCH AUG
YAW TRIM
ROLL PITCH
EMER REL
MASTER ARM
SYSTEM ON

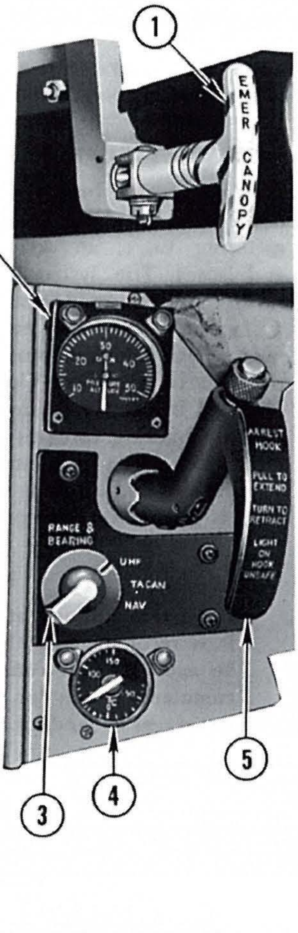
EARLY A3J-1 PILOT'S RIGHT - HAND CONSOLE

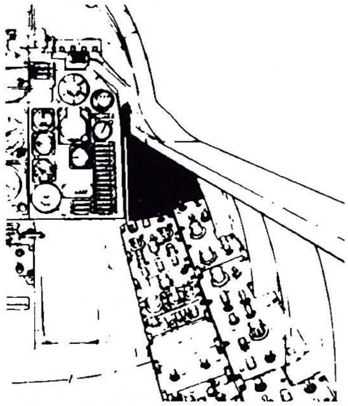


1. GENERATOR CONTROL SWITCHES
2. INLET RAMP CONTROL SWITCH
3. ENGINE MASTER SWITCHES
4. INTERIOR LIGHTS CONTROL PANEL
5. COCKPIT AIR TEMPERATURE CONTROL
6. COCKPIT AIR TEMPERATURE AUTO-MANUAL SWITCH
7. COCKPIT PRESSURE SELECTOR SWITCH
8. ALTERNATE COOLING RESET SWITCH
9. CNI POWER SWITCH
10. SEAT CONTROL SWITCH
11. PEDAL ADJUSTMENT CONTROL SWITCH
12. WINDSHIELD CANOPY DEFROST SWITCH
13. WINDSHIELD ANTI-ICE SWITCH
14. PITOT STATIC BOOM ANTI-ICE SWITCH
15. ENGINE ANTI-ICE SWITCH
16. EXTERIOR LIGHTING CONTROL PANEL
17. WING, TAIL AND RADOME FOLD CONTROL PANEL
18. ECM CONTROL PANEL
19. COMMUNICATIONS — NAVIGATION CONTROL PANEL
20. ICS CONTROLS
21. COMMUNICATIONS MIXING PANEL
22. ENGINE STARTER SWITCHES

PILOT'S RIGHT-HAND FORWARD CONSOLE

1. **CANOPY EMERGENCY RELEASE HANDLE**
2. **COCKPIT PRESSURE ALTIMETER**
3. **RANGE AND BEARING KNOB**
4. **INLET AIR TEMPERATURE INDICATOR**
5. **ARRESTING HOOK HANDLE**





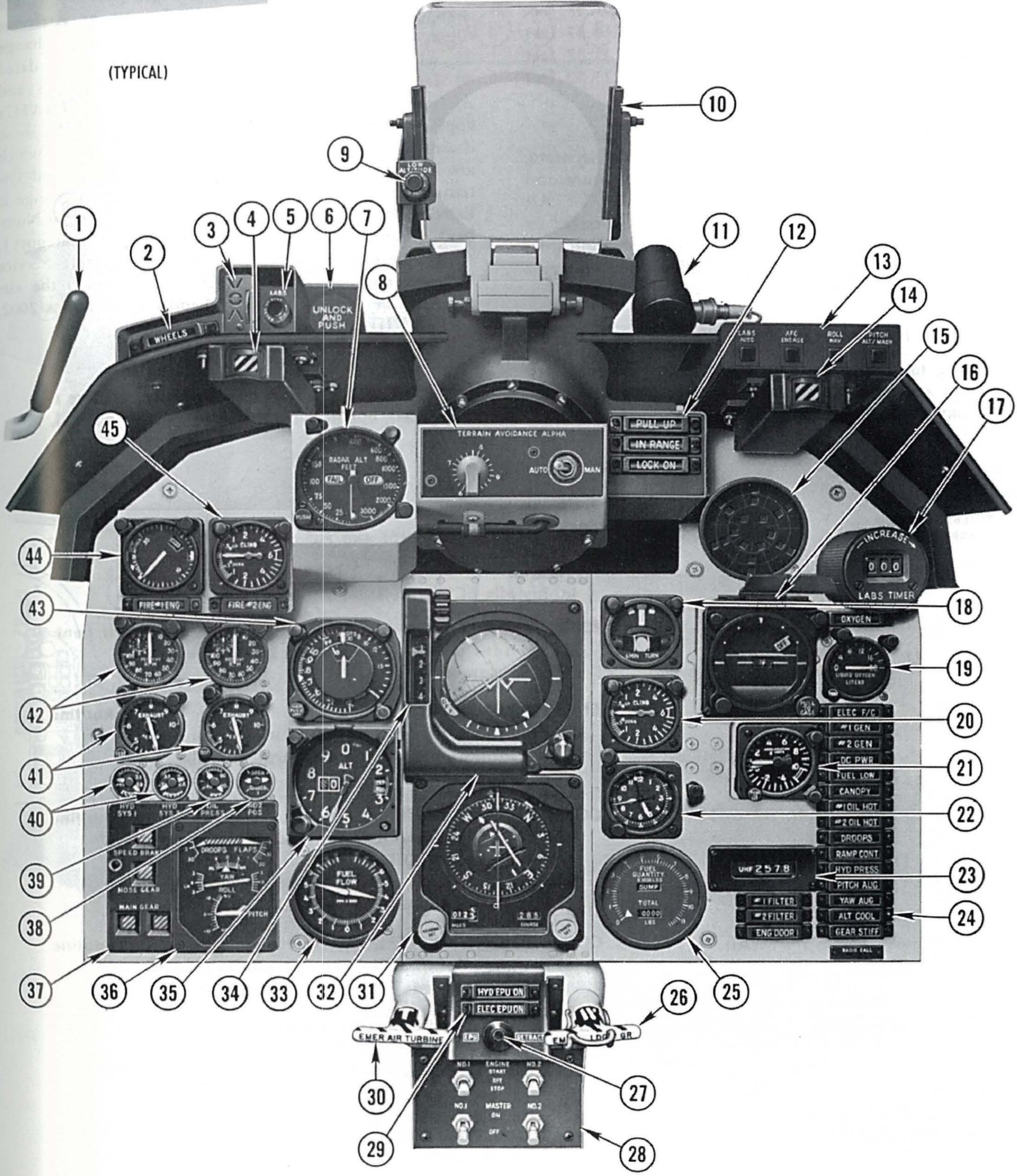
1. RADIATION CURTAIN HANDLE
2. WHEELS WARNING INDICATOR
3. APPROACH INDEXER
4. MASTER WARNING INDICATOR
5. LABS PULLUP LIGHT
6. RADIATION CURTAIN RELEASE KNOB
7. RADAR ALTIMETER
8. TERRAIN AVOIDANCE ALPHA PANEL
9. LOW ALTITUDE WARNING LIGHT
10. PROJECTED DISPLAY INDICATOR (PPDI)
11. PPDI TILT SOLENOID
12. RADAR ADVISORY LIGHTS
13. AFCS MODE INDICATORS
14. MASTER CAUTION INDICATOR
15. ECM INDICATOR
16. STANDBY ATTITUDE INDICATOR
17. LABS TIMER
18. TURN AND SLIP INDICATOR
19. OXYGEN QUANTITY INDICATOR
20. VERTICAL SPEED INDICATOR
21. ACCELEROMETER
22. CLOCK
23. UHF CHAN/FREQ INDICATOR
24. CAUTION INDICATORS
25. FUEL QUANTITY INDICATOR
26. LANDING GEAR EMERGENCY RELEASE HANDLE
27. EPU RETRACT BUTTON
28. ENGINE MASTER AND START SWITCHES
29. EPU ADVISORY INDICATORS
30. EMERGENCY AIR TURBINE (RAT) RELEASE HANDLE
31. HORIZONTAL SITUATION INDICATOR
32. ALL-ATTITUDE INDICATOR
33. FUEL FLOW INDICATOR
34. G-PROGRAMMER
35. ALTIMETER
36. DROOP-FLAP-TRIM INDICATOR
37. SPEED BRAKE, GEAR INDICATOR
38. NOZZLE POSITION INDICATOR
39. OIL PRESSURE INDICATOR
40. HYDRAULIC PRESSURE
41. EGT INDICATORS
42. RPM INDICATORS
43. AIRSPEED/MACH INDICATOR
44. ANGLE OF ATTACK INDICATOR
45. VERTICAL SPEED INDICATOR (PRIMARY T/A)

NOTE: CAUTION AND ADVISORY INDICATORS SHOWN ENERGIZED FOR INFORMATION PURPOSES.

A-5A PILOT'S INSTRUMENT PANEL

PILOT'S INSTRUMENT PANEL

(TYPICAL)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LOW ALTITUDE
WHEELS
LABS
UNLOCK AND PUSH
TERRAIN AVOIDANCE ALPHA
AUTO
MAN
PULL UP
IN RANGE
LOCK ON
LABS AUTO
AFC ENGAGE
ROLL HAV
PITCH ALT/MACH
RADAR ALT FEET
FAIL
OFF
PUSH
INCREASE
LABS TIMER
OXYGEN
FIRE #1 ENG
FIRE #2 ENG
CLIMB
EXHAUST
ALT
FUEL FLOW
HYD SYS 1
HYD SYS 2
OIL PRESS
SPEED BRAKE
NOSE GEAR
MAIN GEAR
DROOPS
FLAPS
YAW
ROLL
PITCH
ELEC F/C
#1 GEN
#2 GEN
DC PWR
FUEL LOW
CANOPY
#1 OIL HOT
#2 OIL HOT
RAMP CONT
HYD PRESS
PITCH AUG
YAW AUG
ALT COOL
GEAR STIFF
UHF 257.8
#1 FILTER
#2 FILTER
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ELEC EPU ON
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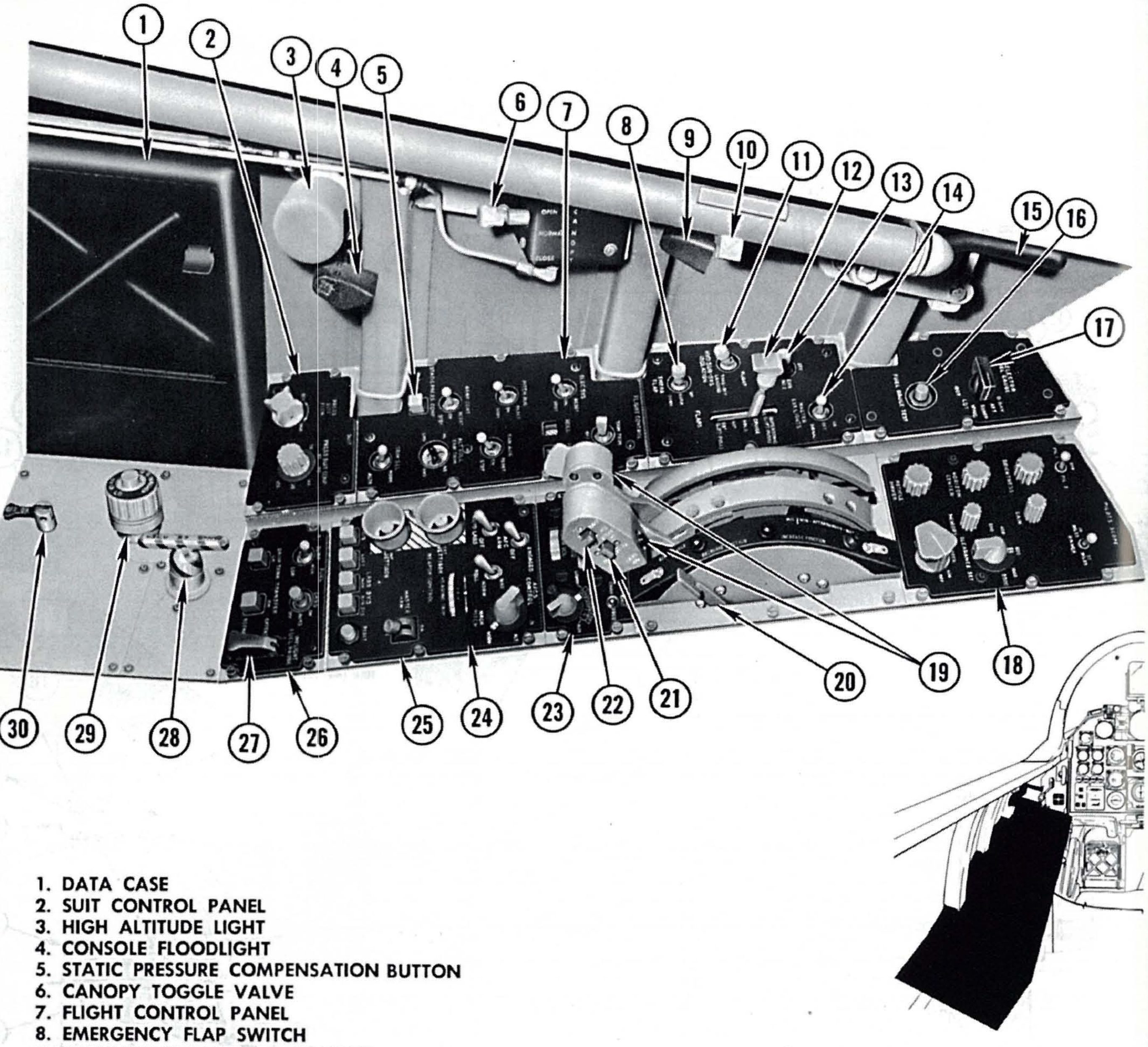
EPU
RETRACT
EMER LDG GR
NO.1
ENGINE START
OFF
STOP
NO.2
MASTER
ON
OFF

A-5A PILOT'S LEFT - HAND CONSOLE

PILOT'S LEFT CONSOLE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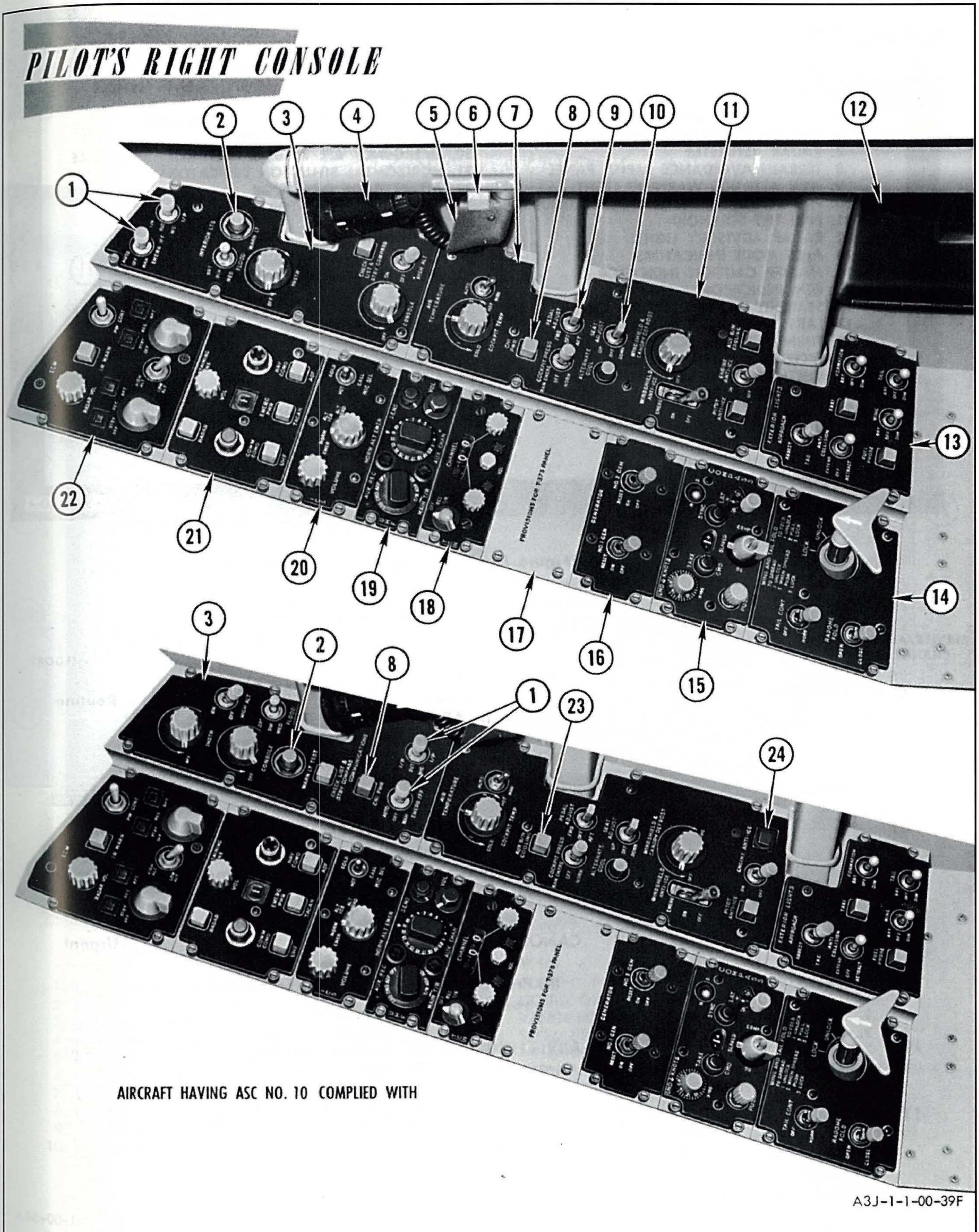
OPEN
NORMAL
CLOSE
CANOPY
FLAPS

1. DATA CASE
2. SUIT CONTROL PANEL
3. HIGH ALTITUDE LIGHT
4. CONSOLE FLOODLIGHT
5. STATIC PRESSURE COMPENSATION BUTTON
6. CANOPY TOGGLE VALVE
7. FLIGHT CONTROL PANEL
8. EMERGENCY FLAP SWITCH
9. INSTRUMENT PANEL FLOODLIGHT
10. COCKPIT AIR CONTROL (VENT TUBE)
11. HYDRAULIC SUBSYSTEMS ISOLATION SWITCH
12. FLAP SWITCH
13. ENGINE FIRE SWITCH
14. EXTERIOR LIGHTS MASTER SWITCH
15. CATAPULT HAND GRIP
16. FUEL GAGE TEST BUTTON
17. FUEL GAGE SELECTOR
18. PILOT'S SCOPE CONTROL PANEL
19. EMERGENCY IGNITION BUTTONS
20. THROTTLE FRICTION LEVER
21. SPEED BRAKE SWITCH
22. INTERCOM — TRANSMIT SWITCH
23. UHF COMM CONTROL PANEL
24. AIRCRAFT CONTROL PANEL
25. WEAPONS CONTROL PANEL
26. FUEL TRANSFER PANEL
27. IN-FLIGHT FUEL PROBE CONTROL SWITCH
28. SPEED BRAKE DUMP HANDLE
29. ANTI "G" VALVE
30. OXYGEN SUPPLY VALVE

A-5A PILOT'S RIGHT - HAND CONSOL


PILOT'S RIGHT CONSOLE
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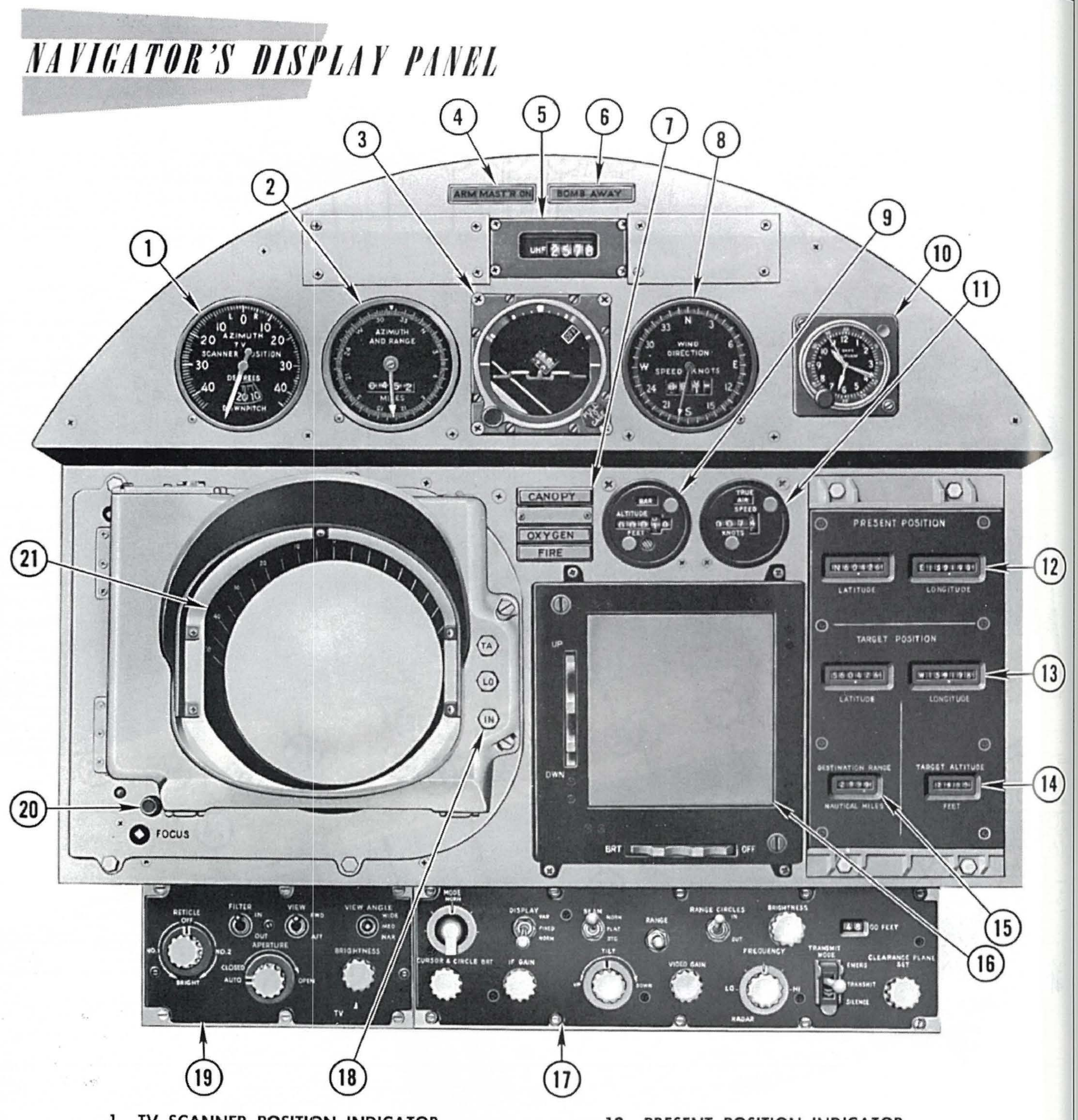
PROVISIONS FOR T-375 PANEL
GENERATOR
EXTERIOR LIGHTS
AIR TEMPERATURE
COCKPIT TEMP
WINDSHIELD & CANOPY DEFROST
AIRCRAFT HAVING ASC NO. 10 COMPLIED WITH
A3J-1-1-00-39F

A-5A BOMBER/NAVIGATOR DISPLAY PANEL


NAVIGATOR'S DISPLAY PANEL
ARM MASTER ON
BOMB AWAY
UHF
AZIMUTH TV SCANNER POSITION
DEGREES
DOWNPITCH
AZIMUTH AND RANGE
MILES
WIND DIRECTION
SPEED KNOTS
CANOPY
OXYGEN
FIRE
ALTITUDE
FEET
TRUE AIR SPEED
KNOTS
PRESENT POSITION
LATITUDE
LONGITUDE
TARGET POSITION
LATITUDE
LONGITUDE
DESTINATION RANGE
NAUTICAL MILES
TARGET ALTITUDE
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APERTURE
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MODE
DISPLAY
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RANGE CIRCLES
BRIGHTNESS
CURSOR & CIRCLE BRT
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TILT
VIDEO GAIN
FREQUENCY
TRANSMIT MODE
CLEARANCE PLANE SET
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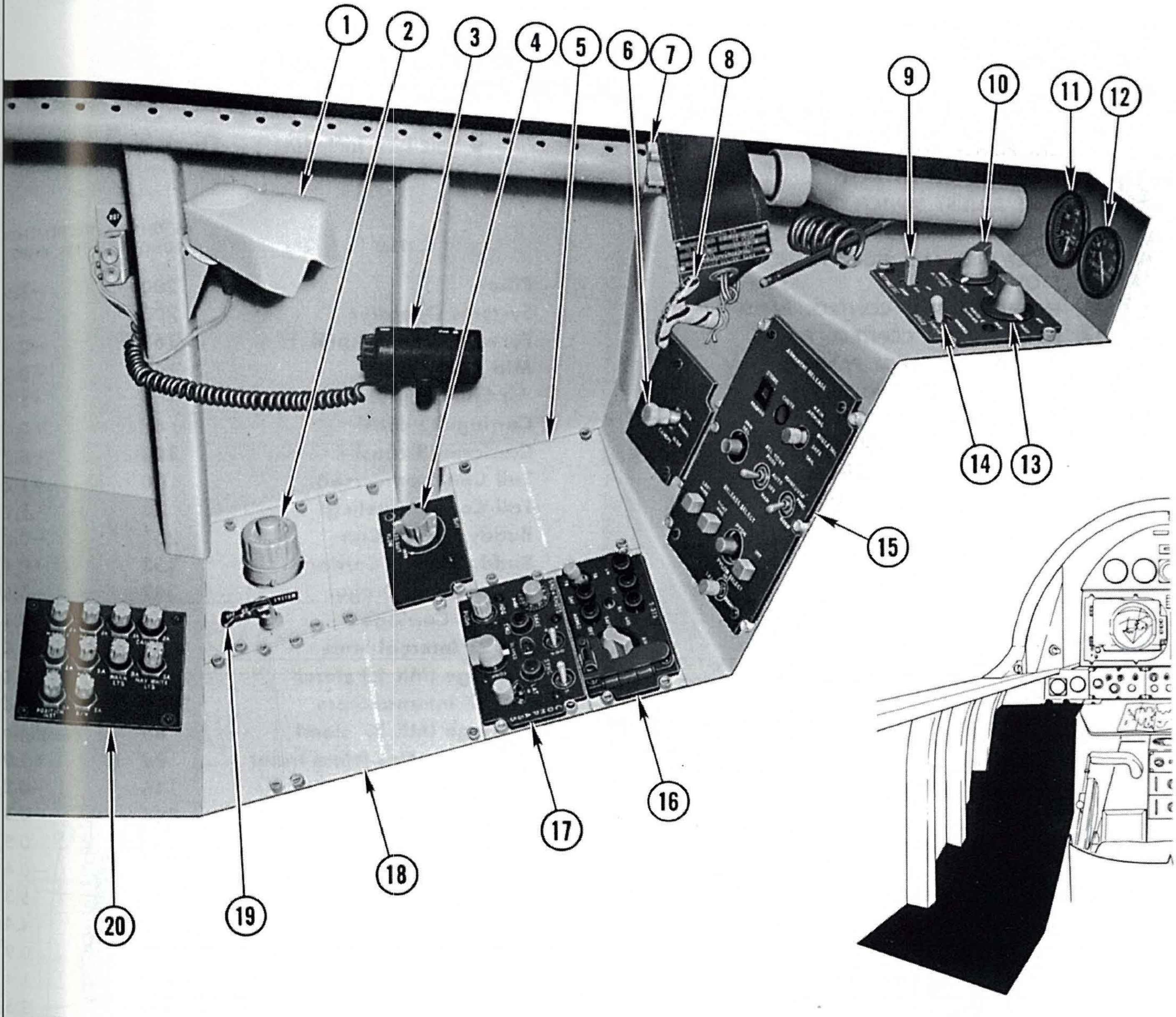
1. TV SCANNER POSITION INDICATOR
2. AZIMUTH AND RANGE INDICATOR
3. ATTITUDE INDICATOR
4. ARMAMENT MASTER ON ADVISORY LIGHT
5. UHF CHANNEL/FREQUENCY INDICATOR
6. BOMB AWAY ADVISORY LIGHT
7. WARNING AND ADVISORY LIGHTS
8. WIND, SPEED AND DIRECTION INDICATOR
9. RADAR-BARO ALTIMETER
10. CLOCK
11. TRUE AIRSPEED/GROUND SPEED INDICATOR
12. PRESENT POSITION INDICATOR
13. TARGET POSITION INDICATOR
14. TARGET ALTITUDE INDICATOR
15. DESTINATION RANGE INDICATOR
16. DATA VIEWER
17. RADAR CONTROL PANEL
18. RADAR ADVISORY LIGHTS
19. TELEVISION CONTROL PANEL
20. FOCUS CONTROL
21. RADAR-TV INDICATOR

A3J-1-1-00-54A

A-5A BOMBER/NAVIGATOR'S LEFT - HAND CONSOLE

NAVIGATOR'S LEFT CONSOLE



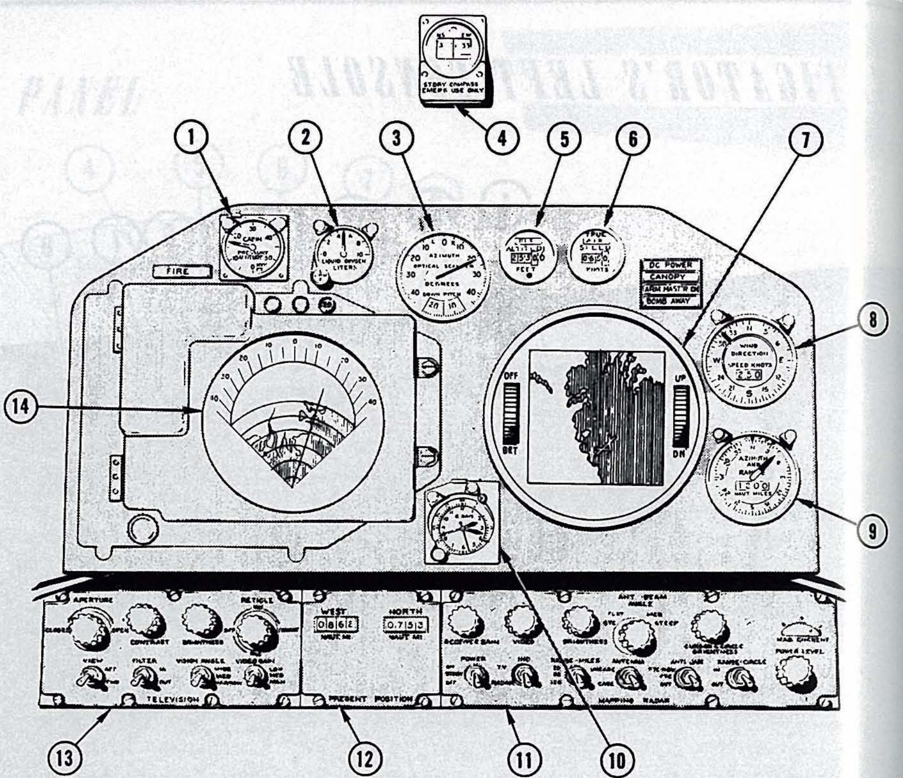
1. CONSOLE FLOODLIGHT
2. ANTI "G" SUIT VALVE
3. EMERGENCY LIGHT
4. PRESSURE SUIT FLOW KNOB
5. PROVISIONS FOR ECM EQUIPMENT
6. CANOPY TOGGLE VALVE
7. COCKPIT AIR CONTROL
8. CANOPY EMERGENCY JETTISON HANDLE
9. ALTITUDE SET SWITCH
10. ALTITUDE MODE KNOB
11. COCKPIT PRESSURE ALTIMETER
12. LIQUID OXYGEN QUANTITY INDICATOR
13. RANGE AND BEARING KNOB
14. SPEED SELECT SWITCH (TRUE AIR/GROUND)
15. ARMAMENT RELEASE PANEL
16. T-375 OR AN/AWW-1 ARMAMENT CONTROL PANEL
17. COMPASS CONTROL PANEL
18. PROVISIONS FOR BUDDY TANKER PANEL
19. OXYGEN SYSTEM SUPPLY VALVE
20. FUSE PANEL

EARLY A3J-1 BOMBER/NAVIGATOR'S FOWARD PANEL

1. CABIN PRESSURE ALTIMETER
2. LIQUID OXYGEN QUANTITY INDICATOR
3. TV SCANNER POSITION INDICATOR
4. STANDBY COMPASS
5. RADAR-BARO ALTIMETER
6. TRUE AIRSPEED-GROUND SPEED INDICATOR
7. PHOTO DATA VIEWER
8. WIND SPEED AND DIRECTION INDICATOR
9. AZIMUTH & RANGE INDICATOR
10. CLOCK
11. MAPPING RADAR CONTROL PANEL
12. PRESENT POSITION PANEL
13. TELEVISION CONTROL PANEL
14. RADAR-TV DISPLAY

1. RADAR-BARO ALTITUDE SET SWITCH
2. RADAR-BARO ALTITUDE SELECT KNOB
3. RANGE & BEARING SELECT KNOB
4. TAS-GROUND SPEED SELECT SWITCH
5. CNI CONTROL PANEL
6. COMMUNICATIONS MIXING PANEL
7. ICS CONTROLS
8. FREQUENCY METER
9. GCI FREQUENCY CONTROL PANEL
10. OXYGEN SYSTEM VALVE
11. ANTI-G SUIT VALVE
12. PRESSURE SUIT SELECTOR KNOB
13. INTERIOR LIGHTING CONTROL PANEL
14. CANOPY SWITCH
15. CANOPY JETTISON HANDLE

1. CURSOR CONTROL
2. SEAT ADJUST SWITCH
3. IFF CONTROL PANEL
4. SIF CONTROL PANEL
4A. BUDDY TANKER CONTROL PANEL
5. COMPASS CONTROL PANEL
6. T249 CONTROL PANEL
7. BOMB COMPUTER CONTROL PANEL
8. DESTINATION SELECTOR
9. BOMBING MODE SELECTOR
10. BOMBING COMPUTER POWER SWITCH
11. AUTONAVIGATOR POWER SWITCH


STBY COMPASS CHECK USE ONLY
FIRE
DC POWER
CANOPY
ARM MASTER ON
BOMB AWAY
OFF
BRT
UP
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WIND DIRECTION
SPEED KNOTS
AZIMUTH
NAUT MILES
TELEVISION
WEST
NORTH
PRESENT POSITION
MAPPING RADAR
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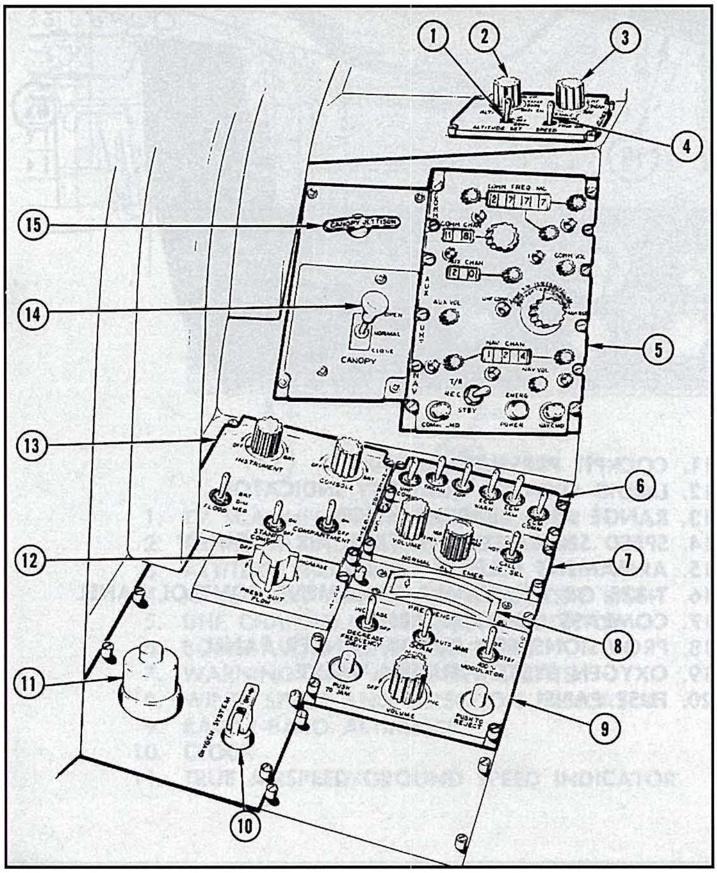
EARLY A3J-1 BOMBER/NAVIGATOR'S LEFT-HAND/RIGHT-HAND CONSOLES


ALTITUDE SET
SPEED
COMM FREQ MC
CANOPY JETTISON
CANOPY
OPEN
NORMAL
CLOSE
COMM CHAN
NAV CHAN
INSTRUMENT
CONSOLE
COMPARTMENT
PRESS SUIT FLOW
FREQUENCY
VOLUME
PUSH TO JAM
PUSH TO REJECT
OXYGEN SYSTEM
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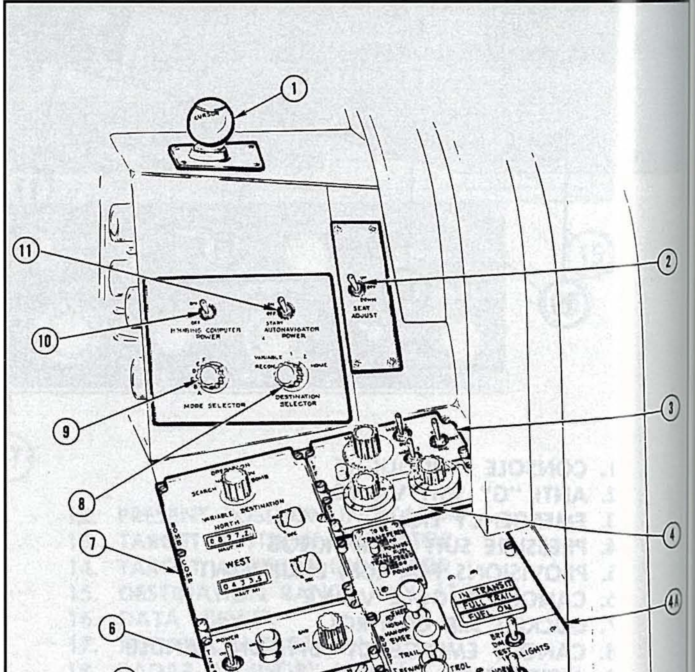
CURSOR
BOMBING COMPUTER POWER
AUTONAVIGATOR POWER
SEAT ADJUST
MODE SELECTOR
DESTINATION SELECTOR
VARIABLE DESTINATION
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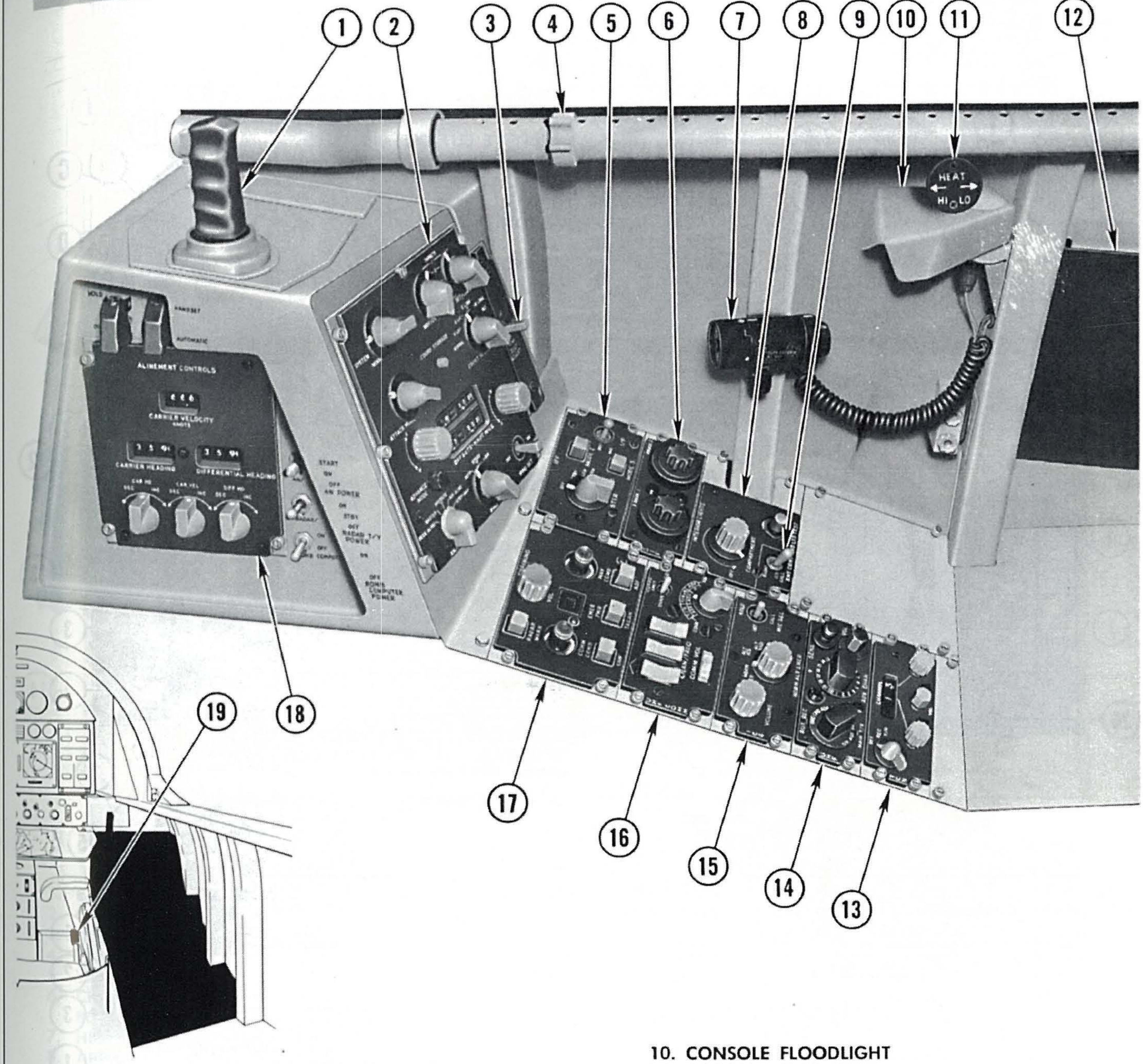
A-5A BOMBER/NAVIGATOR'S RIGHT - HAND CONSOLE

NAVIGATOR'S RIGHT CONSOLE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CARRIER HEADING
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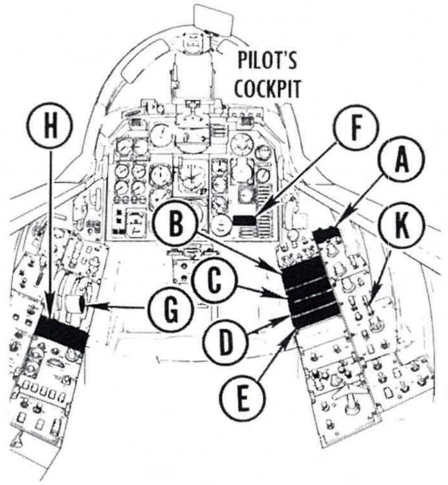
1. CURSOR CONTROL HANDLE
2. BOMBING-NAVIGATION CONTROL PANEL
3. SEAT ADJUST SWITCH
4. COCKPIT AIR CONTROL
5. IFF CONTROL PANEL
6. SIF CONTROL PANEL
7. EMERGENCY LIGHT
8. INTERIOR LIGHTS CONTROL PANEL
9. TRANSMIT CONTROL SWITCH
10. CONSOLE FLOODLIGHT
11. COCKPIT HEAT LEVER
12. STOWAGE CASE
13. TACAN CONTROL PANEL
14. AUXILIARY RECEIVER CONTROL PANEL
15. ICS CONTROL PANEL
16. UHF COMM CONTROL PANEL
17. ICS AUDIO SELECT PANEL
18. ALIGNMENT CONTROL PANEL
19. FOOT-OPERATED MICROPHONE SWITCH

CNI CONTROLS


PILOT'S COCKPIT
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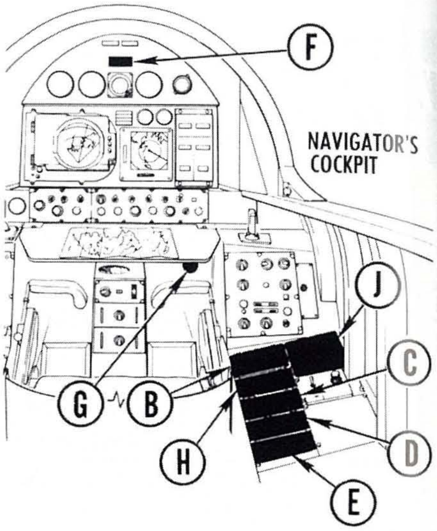
F
NAVIGATOR'S COCKPIT
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(A) REMOTE IFF PANEL

1. EMERGENCY IFF SWITCH
2. I/P SWITCH

(B) ICS AUDIO SELECT PANEL

1. RADAR WARNING RECEIVE BUTTON
2. TRAINING TONE VOLUME KNOB *
3. NAV COMMAND BUTTON
4. ADF RECEIVE BUTTON
5. TACAN RECEIVE BUTTON
6. UHF RECEIVE BUTTON
7. EMERGENCY POWER INDICATOR
8. COMM COMMAND BUTTON

(C) ICS CONTROL PANEL

1. ICS VOLUME CONTROL
2. ICS FUNCTION SELECTOR
3. MICROPHONE SELECT SWITCH

(D) AUX UHF RECEIVER PANEL

1. SENSITIVITY CONTROL (INOPERATIVE)
2. CHANNEL SELECTOR
3. VOLUME CONTROL
4. FUNCTION SELECTOR (INOPERATIVE)

(E) TACAN CONTROL PANEL

1. CHANNEL INDICATOR
2. CHANNEL SELECT KNOBS
3. VOLUME CONTROL
4. FUNCTION SELECTOR

(F) UHF CHANNEL/FREQUENCY INDICATOR

(G) TRANSMIT SWITCH

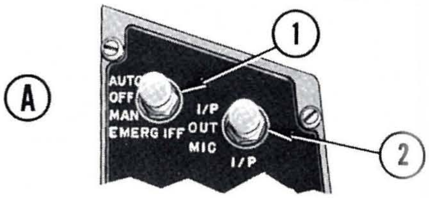
(H) UHF COMM PANEL

1. FUNCTION CONTROL SWITCH
2. MODE SELECTOR
3. FREQUENCY SLEW SWITCHES
4. VOLUME CONTROL
5. CHANNEL/FREQUENCY SLEW SWITCH

(J) IFF-SIF PANELS

1. FUNCTION SELECTOR
2. MODE TWO BUTTON
3. I/P-MIC SWITCH
4. MODE THREE BUTTON
5. SIF CODER KNOBS

(K) CNI POWER SWITCH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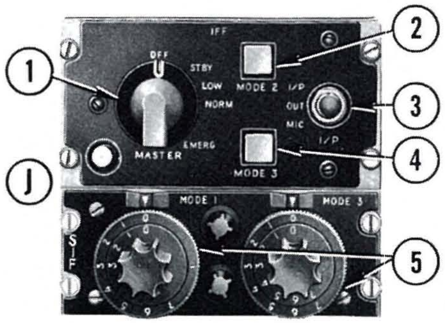
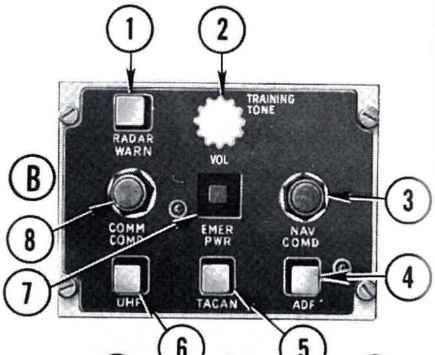
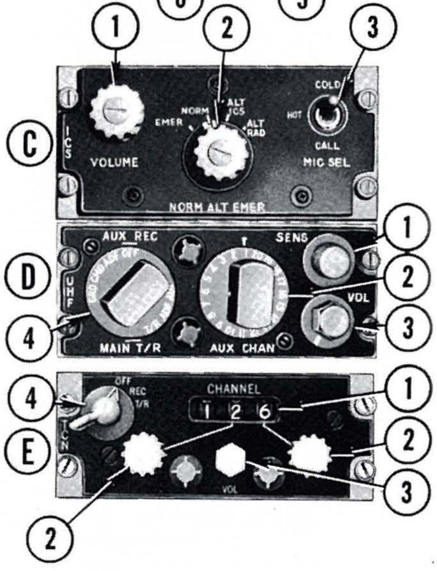
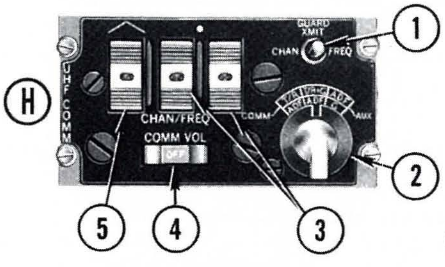
AUTO
OFF
MAN
EMERG IFF
I/P
OUT
MIC
I/P


J
1
2
3
4
5
IFF
OFF
STBY
LOW
NORM
EMERG
MASTER
MODE 2
MODE 3
I/P
OUT
MIC
I/P
MODE 1
MODE 3
SIF


B
1
2
3
4
5
6
7
8
RADAR WARN
TRAINING TONE
VOL
COMM COMD
EMER PWR
NAV COMD
UHF
TACAN
ADF

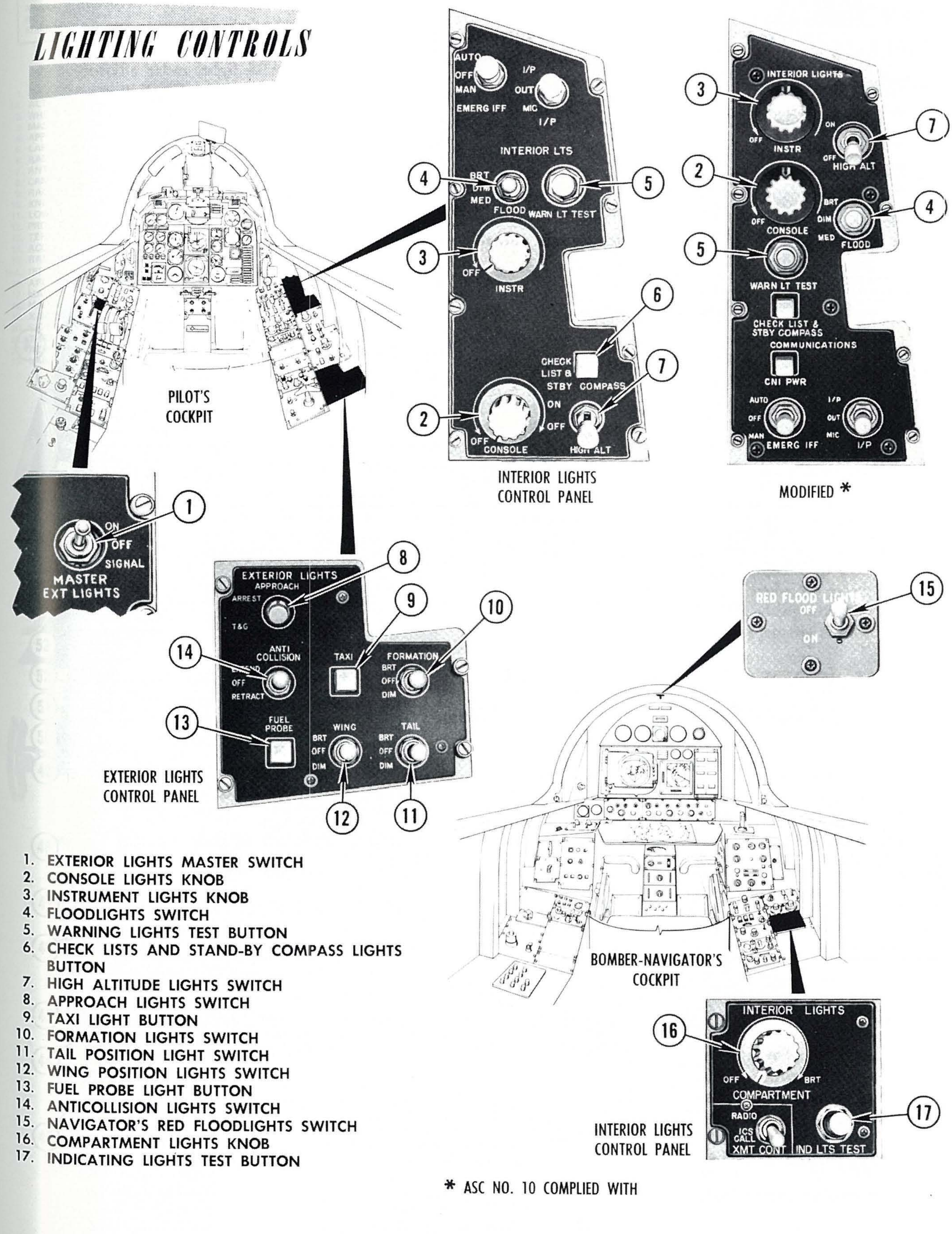

C
1
2
3
ICS
VOLUME
EMER
NORM
ALT ICS
ALT RAD
NORM ALT EMER
HOT
COLD
CALL
MIC SEL
D
1
2
3
4
AUX REC
SENS
UHF
MAIN T/R
AUX CHAN
VOL
E
1
2
3
4
2
OFF
REC
T/R
TCN
CHANNEL
1 2 6
VOL


H
1
2
3
4
5
GUARD XMIT
CHAN
FREQ
UHF COMM
CHAN/FREQ
COMM VOL
OFF
COMM
AUX

*AIRCRAFT HAVING ASC 43 COMPLIED WITH

A21-1 1-71-5H

LIGHTING CONTROLS


LIGHTING CONTROLS
PILOT'S COCKPIT
MASTER EXT LIGHTS
ON
OFF
SIGNAL
AUTO
OFF
MAN
EMERG IFF
I/P
OUT
MIC
I/P
INTERIOR LTS
BRT
DIM
MED
FLOOD
WARN LT TEST
OFF
INSTR
CHECK LIST & STBY COMPASS
ON
OFF
HIGH ALT
OFF
CONSOLE
INTERIOR LIGHTS CONTROL PANEL
INTERIOR LIGHTS
OFF
INSTR
ON
OFF
HIGH ALT
OFF
CONSOLE
BRT
DIM
MED
FLOOD
WARN LT TEST
CHECK LIST & STBY COMPASS
COMMUNICATIONS
CNI PWR
AUTO
OFF
MAN
EMERG IFF
I/P
OUT
MIC
I/P
MODIFIED *
EXTERIOR LIGHTS
APPROACH
ARREST
T&G
ANTI COLLISION
EXTEND
OFF
RETRACT
TAXI
FORMATION
BRT
OFF
DIM
FUEL PROBE
WING
BRT
OFF
DIM
TAIL
BRT
OFF
DIM
EXTERIOR LIGHTS CONTROL PANEL
RED FLOOD LIGHTS
OFF
ON
BOMBER-NAVIGATOR'S COCKPIT
INTERIOR LIGHTS
OFF
BRT
COMPARTMENT
RADIO
ICS CALL
XMT CONT
IND LTS TEST
INTERIOR LIGHTS CONTROL PANEL
1
2
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6
7
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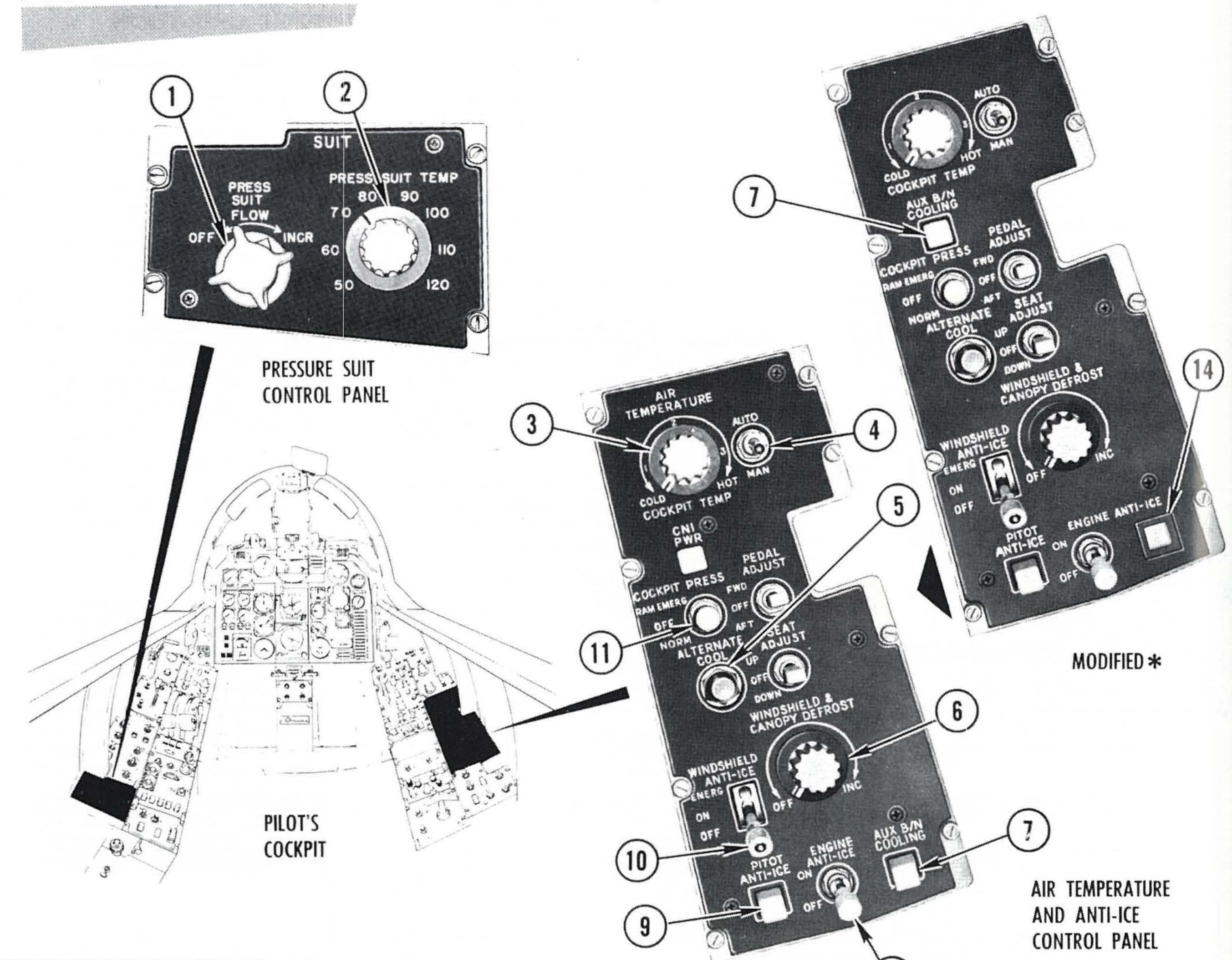
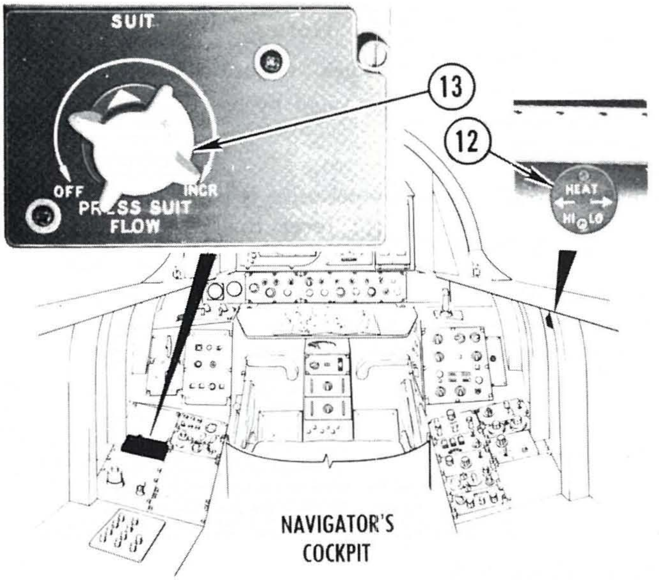
11
12
13
14
15
16
17

1. EXTERIOR LIGHTS MASTER SWITCH
2. CONSOLE LIGHTS KNOB
3. INSTRUMENT LIGHTS KNOB
4. FLOODLIGHTS SWITCH
5. WARNING LIGHTS TEST BUTTON
6. CHECK LISTS AND STAND-BY COMPASS LIGHTS BUTTON
7. HIGH ALTITUDE LIGHTS SWITCH
8. APPROACH LIGHTS SWITCH
9. TAXI LIGHT BUTTON
10. FORMATION LIGHTS SWITCH
11. TAIL POSITION LIGHT SWITCH
12. WING POSITION LIGHTS SWITCH
13. FUEL PROBE LIGHT BUTTON
14. ANTICOLLISION LIGHTS SWITCH
15. NAVIGATOR'S RED FLOODLIGHTS SWITCH
16. COMPARTMENT LIGHTS KNOB
17. INDICATING LIGHTS TEST BUTTON

* ASC NO. 10 COMPLIED WITH

CONDITIONING AND PRESSURIZATION CONTROLS


1
2
SUIT
PRESS SUIT FLOW
OFF
INCR
PRESS SUIT TEMP
50
60
70
80
90
100
110
120
PRESSURE SUIT CONTROL PANEL
PILOT'S COCKPIT
3
4
5
6
7
9
10
11
AIR TEMPERATURE
AUTO
MAN
COLD
HOT
COCKPIT TEMP
CNI PWR
COCKPIT PRESS
RAM EMERG
OFF
NORM
PEDAL ADJUST
FWD
AFT
ALTERNATE COOL
SEAT ADJUST
UP
DOWN
WINDSHIELD & CANOPY DEFROST
INC
WINDSHIELD ANTI-ICE
EMERG
ON
PITOT ANTI-ICE
ENGINE ANTI-ICE
AUX B/N COOLING
AIR TEMPERATURE AND ANTI-ICE CONTROL PANEL
7
14
AUX B/N COOLING
MODIFIED *


8
SUIT
13
12
HEAT
HI
LO
OFF
INCR
PRESS SUIT FLOW
NAVIGATOR'S COCKPIT

1. PILOT'S PRESSURE SUIT FLOW KNOB
2. PRESSURE SUIT TEMPERATURE KNOB
3. COCKPIT TEMPERATURE KNOB
4. AUTO-MANUAL SWITCH
5. ALTERNATE COOLING RESET BUTTON
6. WINDSHIELD AND CANOPY DEFROST KNOB
7. AUXILIARY B/N COOLING BUTTON
8. ENGINE ANTI-ICE SWITCH
9. PITOT ANTI-ICE BUTTON
10. WINDSHIELD ANTI-ICE SWITCH
11. COCKPIT PRESSURE SWITCH
12. NAVIGATOR'S HEAT CONTROL
13. NAVIGATOR'S PRESSURE SUIT FLOW KNOB
14. ENGINE ANTI-ICE INDICATOR

* ASC NO. 10 COMPLIED WITH

RA-5C PILOT'S INSTRUMENT PANEL

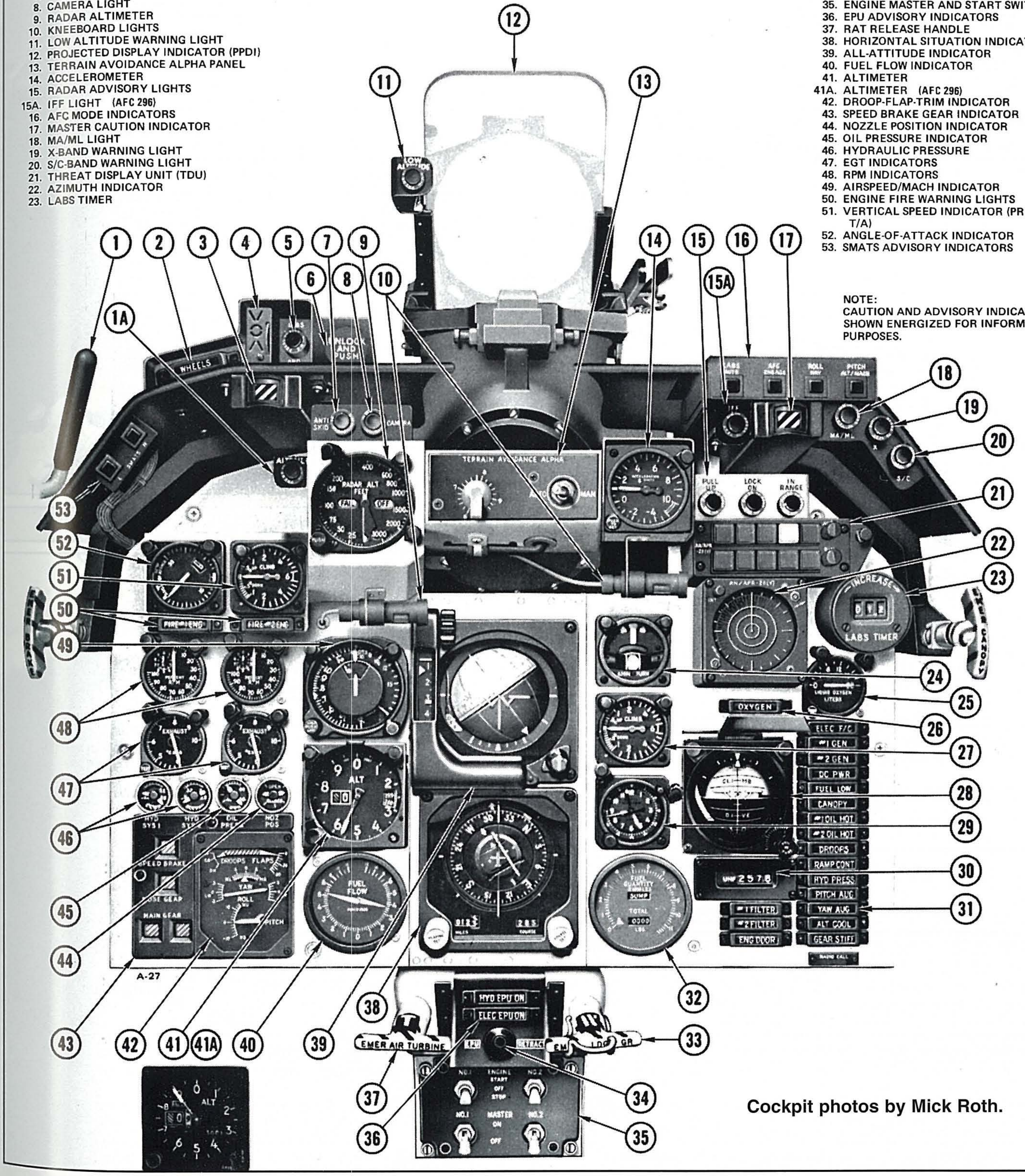
AIRCRAFT 145157 THROUGH 151728
WITH AFC 216 COMPLIED WITH AND
AIRCRAFT 156608 THROUGH 156653

1. RADIATION CURTAIN HANDLE
1A. ALT FAIL LIGHT (AFC 296)
2. WHEELS WARNING INDICATOR
3. MASTER WARNING INDICATOR
4. APPROACH INDEXER
5. LABS/APC LIGHT
6. RADIATION CURTAIN RELEASE KNOB
7. ANTI-SKID LIGHT
8. CAMERA LIGHT
9. RADAR ALTIMETER
10. KNEEBOARD LIGHTS
11. LOW ALTITUDE WARNING LIGHT
12. PROJECTED DISPLAY INDICATOR (PPDI)
13. TERRAIN AVOIDANCE ALPHA PANEL
14. ACCELEROMETER
15. RADAR ADVISORY LIGHTS
15A. IFF LIGHT (AFC 296)
16. AFC MODE INDICATORS
17. MASTER CAUTION INDICATOR
18. MA/ML LIGHT
19. X-BAND WARNING LIGHT
20. S/C-BAND WARNING LIGHT
21. THREAT DISPLAY UNIT (TDU)
22. AZIMUTH INDICATOR
23. LABS TIMER

19. X-BAND WARNING LIGHT
20. S/C-BAND WARNING LIGHT
21. THREAT DISPLAY UNIT (TDU)
22. AZIMUTH INDICATOR
23. LABS TIMER

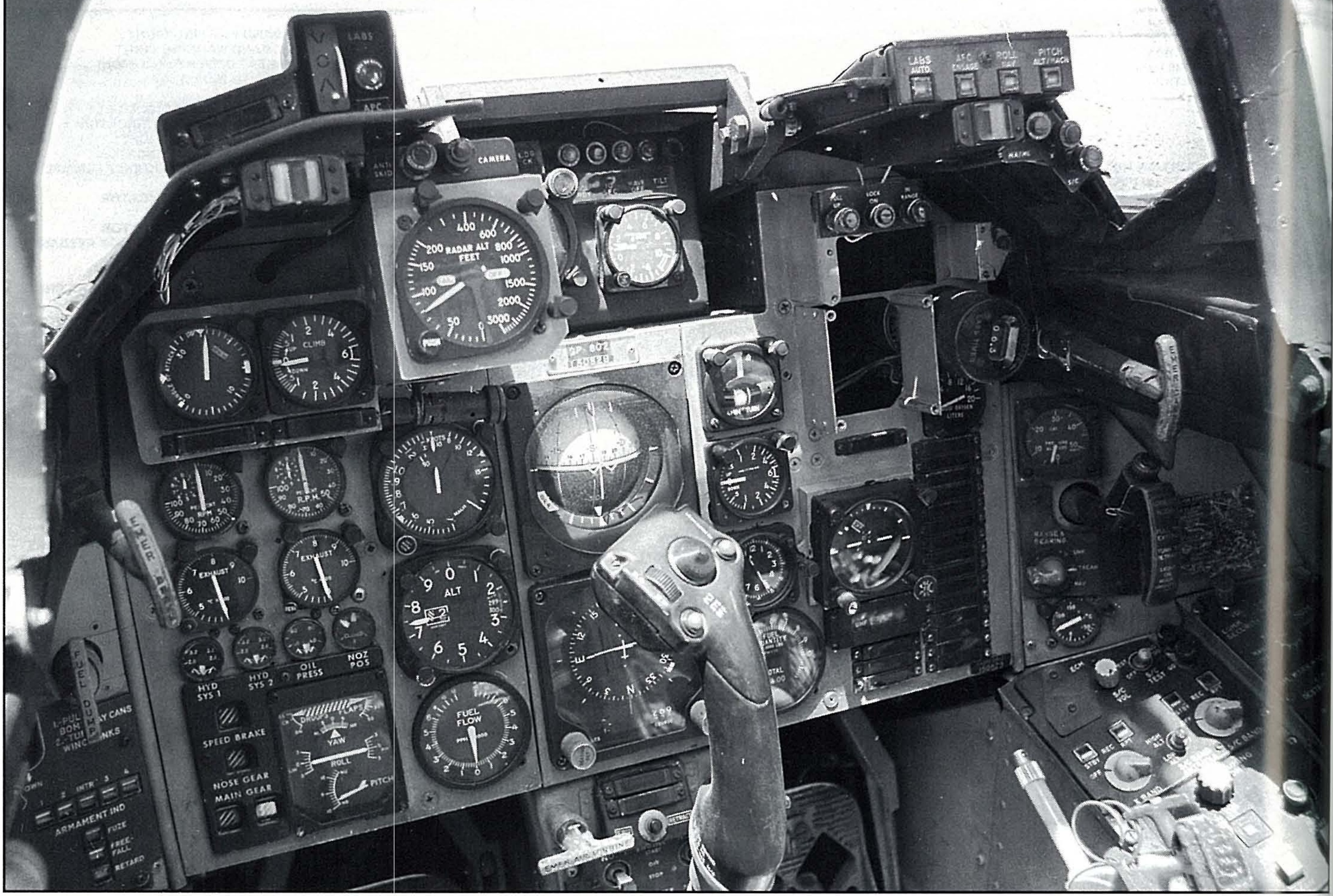
24. TURN AND SLIP INDICATOR
25. OXYGEN QUANTITY INDICATOR
26. OXYGEN WARNING LIGHT
27. VERTICAL SPEED INDICATOR
28. STANDBY ATTITUDE INDICATOR (AFC 321)
29. CLOCK
30. UHF CHAN/FREQ INDICATOR
31. CAUTION INDICATORS
32. FUEL QUANTITY INDICATOR
33. LANDING GEAR EMERGENCY RELEASE HANDLE
34. EPU (RAT) RETRACT BUTTON
35. ENGINE MASTER AND START SWITCHES
36. EPU ADVISORY INDICATORS
37. RAT RELEASE HANDLE
38. HORIZONTAL SITUATION INDICATOR
39. ALL-ATTITUDE INDICATOR
40. FUEL FLOW INDICATOR
41. ALTIMETER
41A. ALTIMETER (AFC 296)
42. DROOP-FLAP-TRIM INDICATOR
43. SPEED BRAKE GEAR INDICATOR
44. NOZZLE POSITION INDICATOR
45. OIL PRESSURE INDICATOR
46. HYDRAULIC PRESSURE
47. EGT INDICATORS
48. RPM INDICATORS
49. AIRSPEED/MACH INDICATOR
50. ENGINE FIRE WARNING LIGHTS
51. VERTICAL SPEED INDICATOR (PRIMARY T/A)
52. ANGLE-OF-ATTACK INDICATOR
53. SMATS ADVISORY INDICATORS

NOTE:
CAUTION AND ADVISORY INDICATORS SHOWN ENERGIZED FOR INFORMATION PURPOSES.

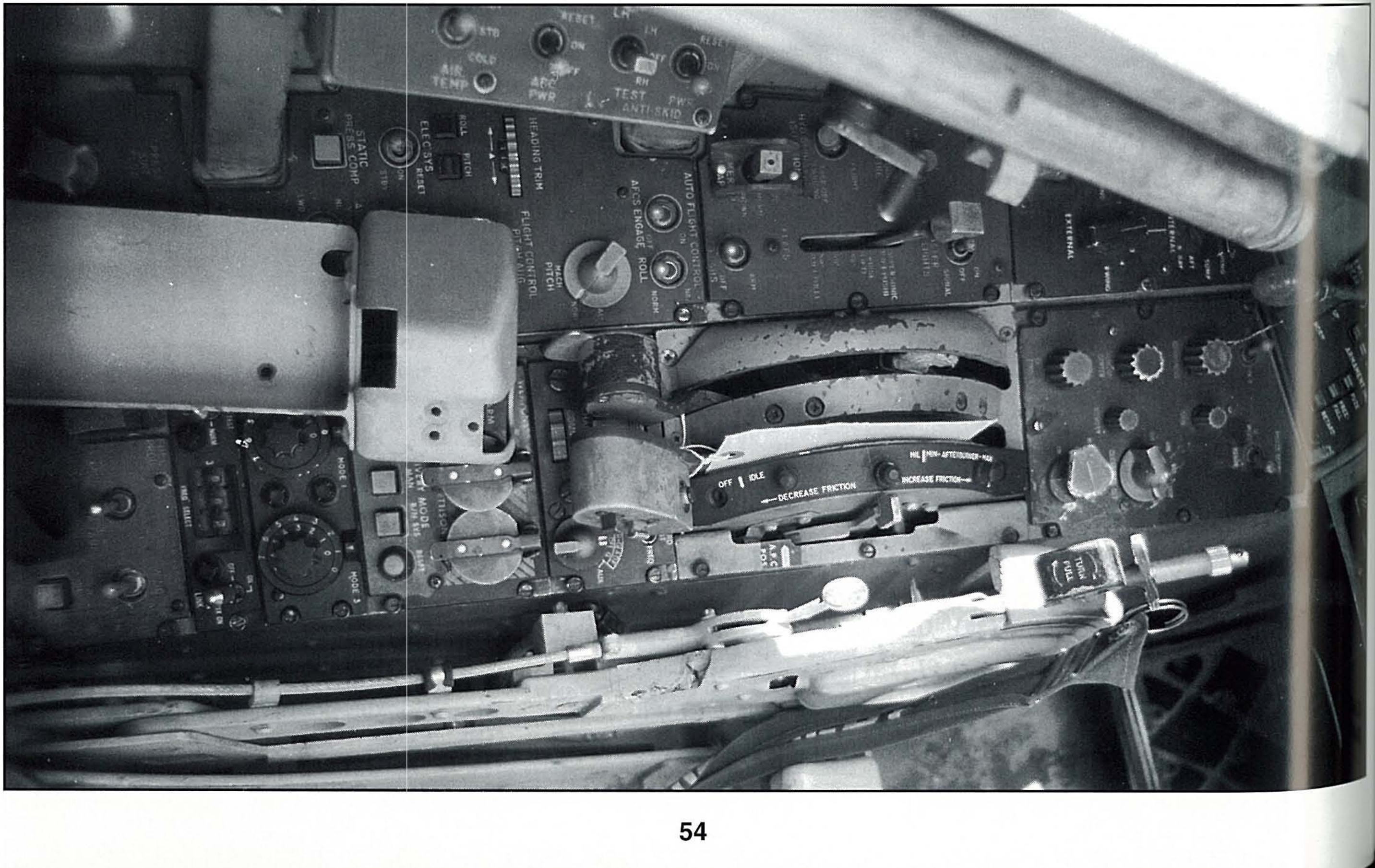

12
11
13
LOW ALTITUDE
1
2
3
4
5
7
9
6
8
10
14
15
16
17
15A
1A
WHEELS
UNLOCK AND PUSH
ANTI SKID
CAMERA
LABS AUTO
AFC ENGAGE
ROLL HDG
PITCH ALT/MACH
18
19
20
MA/ML
X
S/C
TERRAIN AVOIDANCE ALPHA
RADAR ALT FEET
PULL UP
LOCK ON
IN RANGE
21
22
23
INCREASE
LABS TIMER
53
52
51
50
49
FIRE #1 ENG
FIRE #2 ENG
48
47
46
45
44
43
24
25
OXYGEN
26
27
28
29
30
31
32
ELEC F/C
#1 GEN
#2 GEN
DC PWR
FUEL LOW
CANOPY
#1 OIL HOT
#2 OIL HOT
DROOPS
RAMP CONT
HYD PRESS
PITCH AUG
YAW AUG
ALT COOL
GEAR STIFF
#1 FILTER
#2 FILTER
ENG DOOR
HYD SYS 1
HYD SYS 2
OIL PRESS
NOZ POS
SPEED BRAKE
NOSE GEAR
MAIN GEAR
DROOPS
FLAPS
YAW
ROLL
PITCH
ALT
FUEL FLOW
FUEL QUANTITY
TOTAL
LBS
A-27
38
HYD EPU ON
ELEC EPU ON
EMER AIR TURBINE
LDG GR
33
42
41
41A
40
39
NO.1
ENGINE START OFF STOP
NO.2
MASTER ON OFF
37
34
36
35

Cockpit photos by Mick Roth.

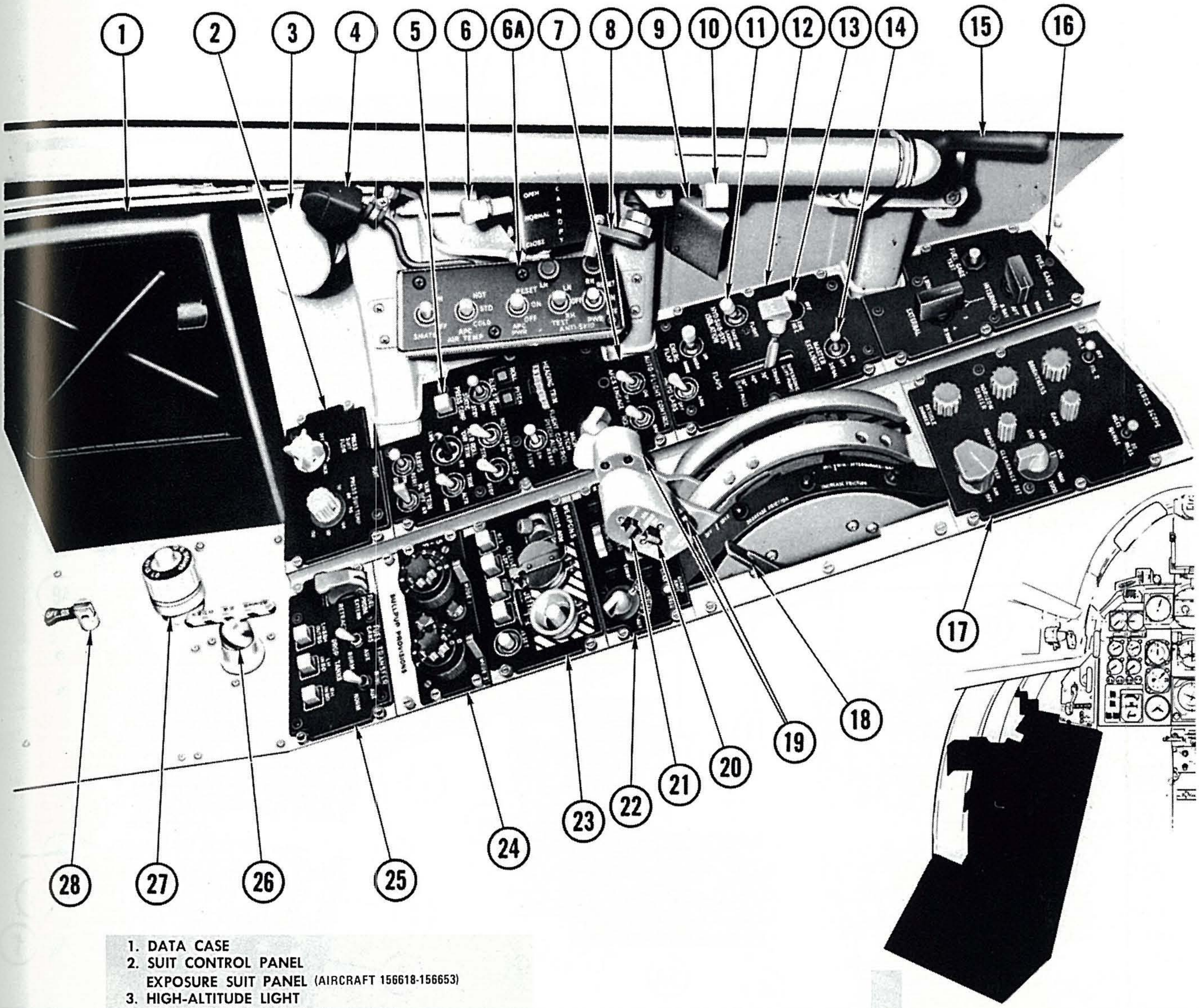
RA-5C PILOT'S INSTRUMENT PANEL


LABS
AFC
LABS AUTO
AFC ENGAGE
ROLL
PITCH ALT/MACH
ANTI SKID
CAMERA
RADAR ALT
FEET
CLIMB
DOWN
R.P.M.
EXHAUST
ALT
FUEL FLOW
HYD SYS 1
HYD SYS 2
OIL PRESS
NOZ POS
SPEED BRAKE
NOSE GEAR
MAIN GEAR
FLAPS
YAW
ROLL
PITCH
FUEL DUMP
ARMAMENT IND
FUZE
FREE-FALL
RETARD

RA-5C PILOT'S LEFT - HAND CONSOLE BuNo 156614


AIR TEMP
AFC PWR
TEST
ANTI-SKID
STATIC PRESS COMP
ELEC SYS
ROLL
PITCH
HEADING TRIM
AUTO FLIGHT CONTROL
AFCS ENGAGE ROLL
FLIGHT CONTROL PITCH
MACH
MODE 1
MODE 3
OFF
IDLE
DECREASE FRICTION
MIL
MIN - AFTERBURNER - MAX
INCREASE FRICTION
EXTERNAL

RA-5C PILOT'S LEFT - HAND CONSOLE



1. DATA CASE
2. SUIT CONTROL PANEL
   EXPOSURE SUIT PANEL (AIRCRAFT 156618-156653)
3. HIGH-ALTITUDE LIGHT
4. CONSOLE FLOODLIGHT
5. STATIC PRESSURE COMPENSATOR BUTTON (DELETED BY AFC 159)
6. CANOPY TOGGLE VALVE

6A. SMATS (AFC 247), APPROACH POWER COMPENSATOR AND ANTI-SKID CONTROL PANEL (AFC 107, AFC 170)

7. AUTOFLIGHT AND FLIGHT CONTROL PANELS
8. EMERGENCY PITCH TRIM CRANK
9. INSTRUMENT PANEL FLOODLIGHT
10. VENTILATION AIR CONTROL
11. HYDRAULIC SUB-SYSTEMS ISOLATION SWITCH
12. FLAP CONTROL PANEL
13. ENGINE FIRE SWITCH
14. EXTERIOR LIGHTS MASTER SWITCH
15. CATAPULT HANDGRIP
16. FUEL QUANTITY INDICATOR CONTROL PANEL
17. SCOPE (PPDI) CONTROL PANEL
18. THROTTLE FRICTION LEVER
19. EMERGENCY IGNITION BUTTONS
20. SPEED BRAKE SWITCH
21. INTERCOM-TRANSMIT SWITCH
22. UHF COMM CONTROL PANEL
23. WEAPONS AND JETTISON CONTROL PANEL
24. SIF CONTROL PANEL (RELOCATED BY AFC 146) (DELETED BY AFC 296)
25. FUEL TRANSFER PANEL
26. SPEED BRAKE DUMP HANDLE
27. ANTI-G VALVE
28. OXYGEN SUPPLY LEVER

RA-5C PILOT'S RIGHT - HAND CONSOLE LEGEND

1. INTERIOR LIGHTS CONTROL PANEL (AFC 216, AFC 250, AFC 303)
2. KNEEBOARD LIGHTS PANEL (AFC 227)
3. UTILITY LIGHT
4. FLOODLIGHT

4A. VENTILATION AIR CONTROL

5. AIR TEMPERATURE AND ANTI-ICE CONTROL PANEL

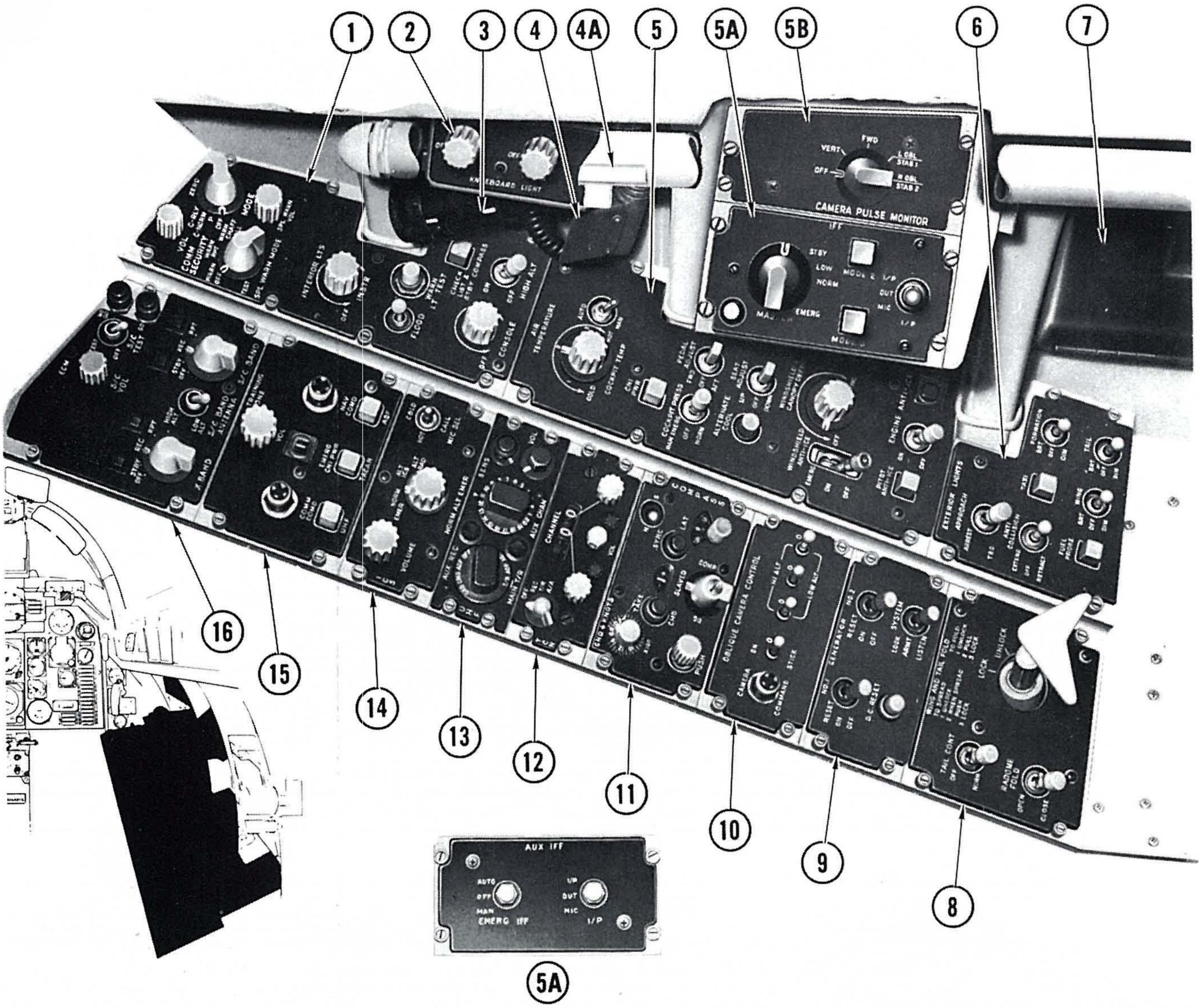
5A. IFF CONTROL PANEL (AFC 146) OR IFF AUX CONTROL PANEL (DELETED BY AFC 296) (AFC 250)

5B. CAMERA PULSE MONITOR KNOB (AFC 180)

6. EXTERIOR LIGHTS CONTROL PANEL
7. STORAGE CASE
8. FOLD CONTROL PANEL
9. ELECTRICAL SYSTEM CONTROL PANEL
10. OBLIQUE CAMERA CONTROL PANEL (INTERCHANGEABLE WITH T-375 AMAC OR AN/AWW-1 FFC CONTROL PANELS)
11. COMPASS CONTROL PANEL
12. TACAN CONTROL PANEL
13. AUX UHF CONTROL PANEL
14. INTERCOM SELECT PANEL
15. AUDIO SELECT PANEL (AFC 216)
16. ECM CONTROL PANEL (AFC 246)

Cockpit photos by Mick Roth are of RA-5C BuNo 156614.

RA-5C PILOT'S RIGHT - HAND CONSOLE


1
2
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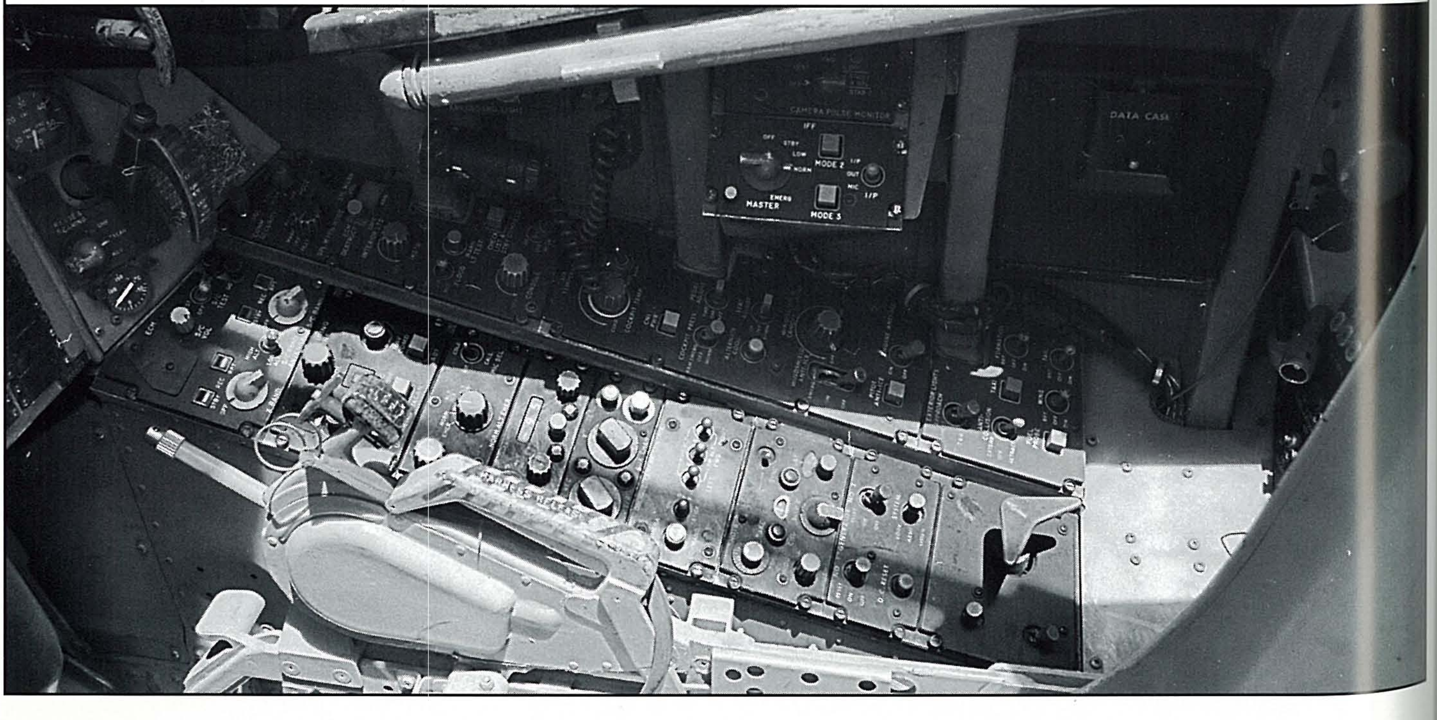
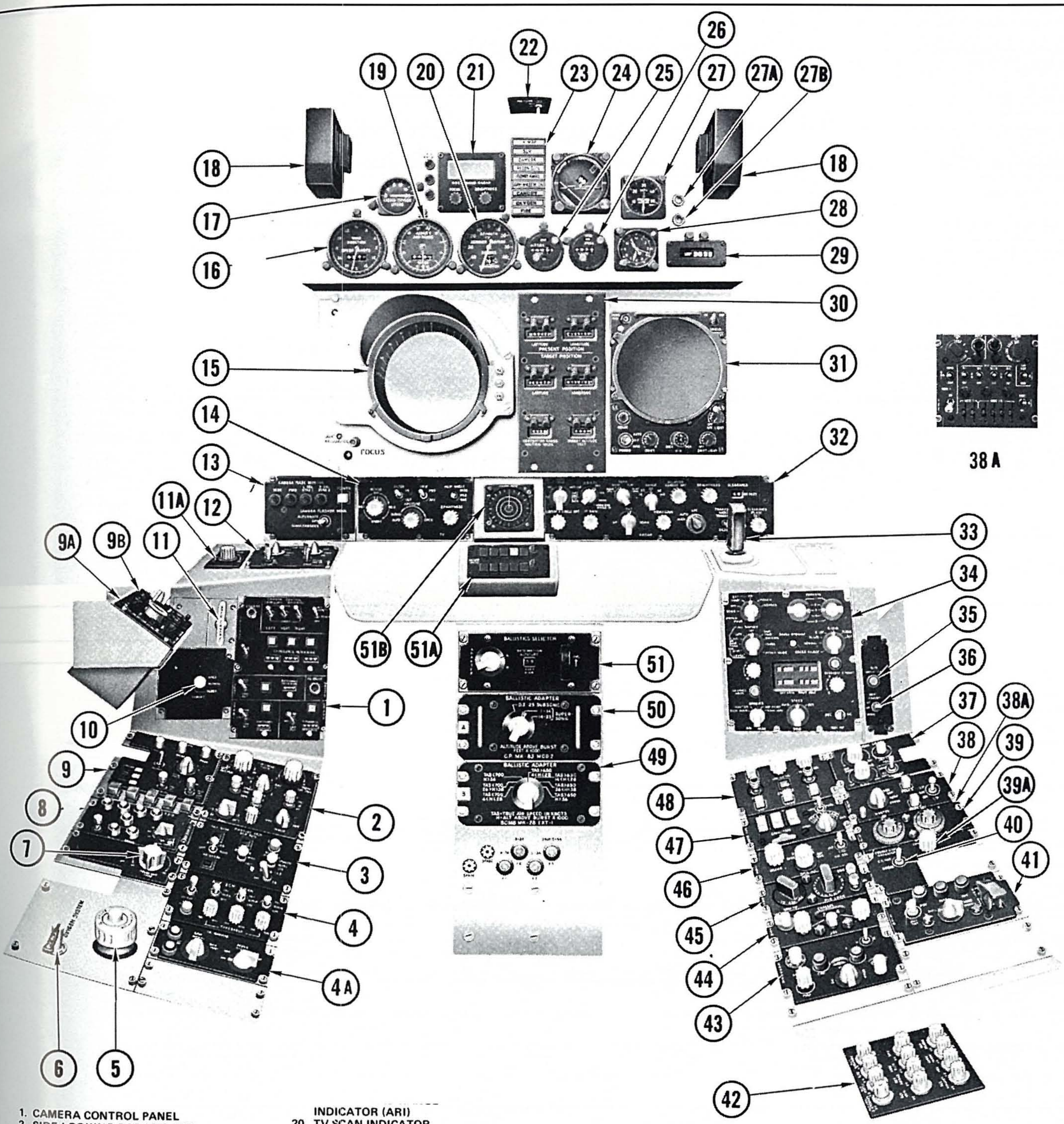
4A
5
5A
5B
6
7
8
9
10
11
12
13
14
15
16
KNEEBOARD LIGHT
CAMERA PULSE MONITOR
VERT
FWD
OFF
L OBL STAB 1
R OBL STAB 2
IFF
STBY
LOW
NORM
EMERG
MASTER
MODE 2
MODE 3
I/P
OUT
MIC
INTERIOR LTS
AIR TEMPERATURE
COCKPIT TEMP
ENGINE ANTI-ICE
EXTERIOR LIGHTS
OBLIQUE CAMERA CONTROL
CAMERA
COMMAND
STICK
GENERATOR
RESET
D-C RESET
TAIL CONT
RADOME FOLD
OPEN
CLOSE
LOCK
UNLOCK
VOLUME
CHANNEL
AUX IFF
AUTO
OFF
MAN
EMERG IFF
I/P
OUT
MIC
I/P
5A


CAMERA PULSE MONITOR
IFF
OFF
STBY
LOW
NORM
EMERG
MASTER
MODE 2
MODE 3
I/P
OUT
MIC
DATA CASE

RA-5C RAN COCKPIT PANELS



1
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4A
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8
9
9A
9B
10
11
11A
12
13
14
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17
18
19
20
21
22
23
24
25
26
27
27A
27B
28
29
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31
32
33
34
35
36
37
38
38A
39
39A
40
41
42
43
44
45
46
47
48
49
50
51
51A
51B
38 A
FOCUS
BALLISTICS SELECTOR
BALLISTIC ADAPTER
BALLISTIC ADAPTER

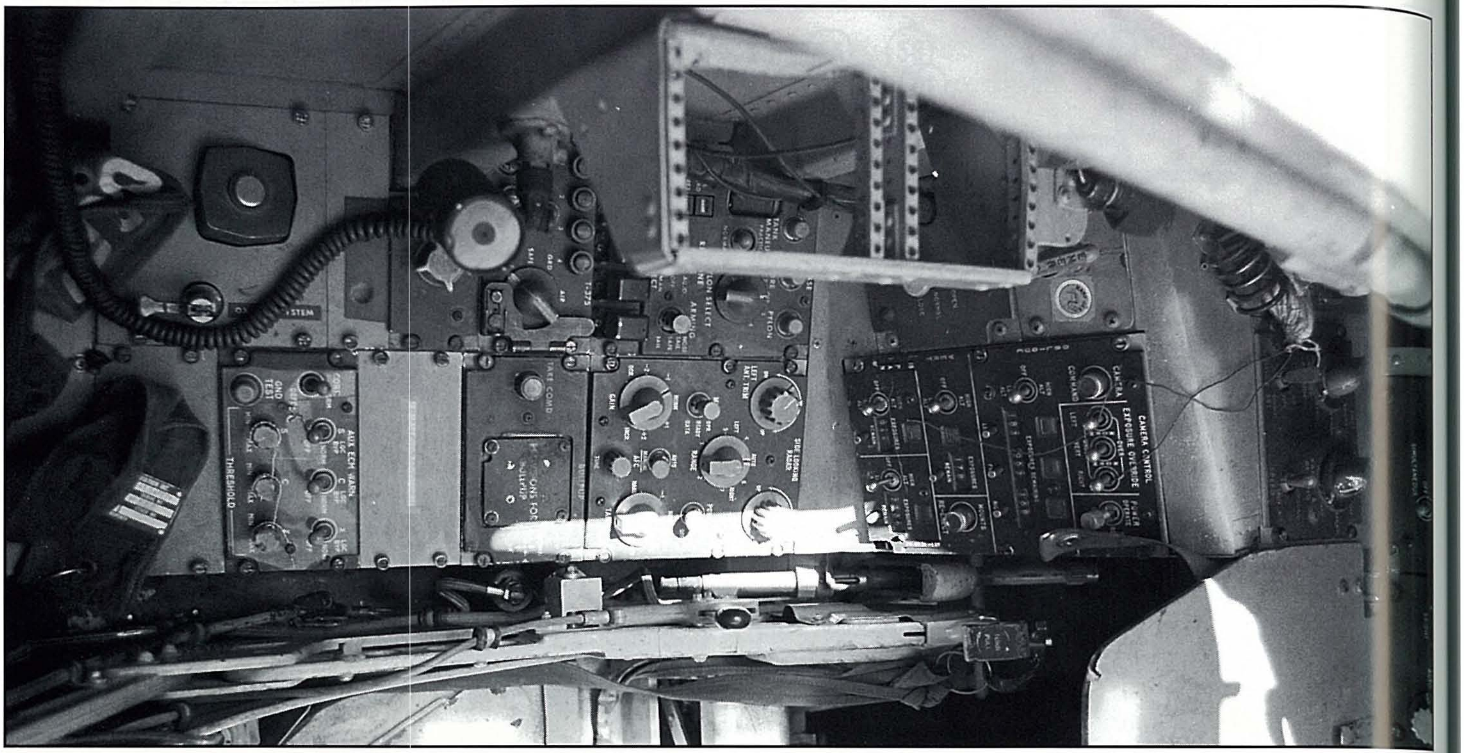
1. CAMERA CONTROL PANEL
2. SIDE LOOKING RADAR PANEL
3. AN/ALQ-61 CONTROL PANEL
4. AN/APR-25(V) AUXILIARY ECM CONTROL PANEL
4A. IR MAPPING CONTROL PANEL
5. ANTI-G VALVE
6. OXYGEN VALVE
7. SUIT FLOW KNOB
8. T-375 OR AN/AWW-1 PANEL
9. ARMAMENT RELEASE PANEL
9A. CHAFF PROGRAMMER
9B. CHAFF CONTROL PANEL
10. CANOPY TOGGLE
11. CANOPY JETTISON HANDLE
11A. MAP LIGHTS KNOB
12. INSTRUMENT CONTROL PANEL
13. CAMERA PULSE MONITOR
14. TV CONTROL PANEL
15. RADAR TV INDICATOR
16. WIND SPEED/DIRECTION INDICATOR
17. OXYGEN QUANTITY INDICATOR
18. COMPARTMENT FLOOD LIGHT
19. AZIMUTH AND RANGE INDICATOR (ARI)

INDICATOR (ARI)

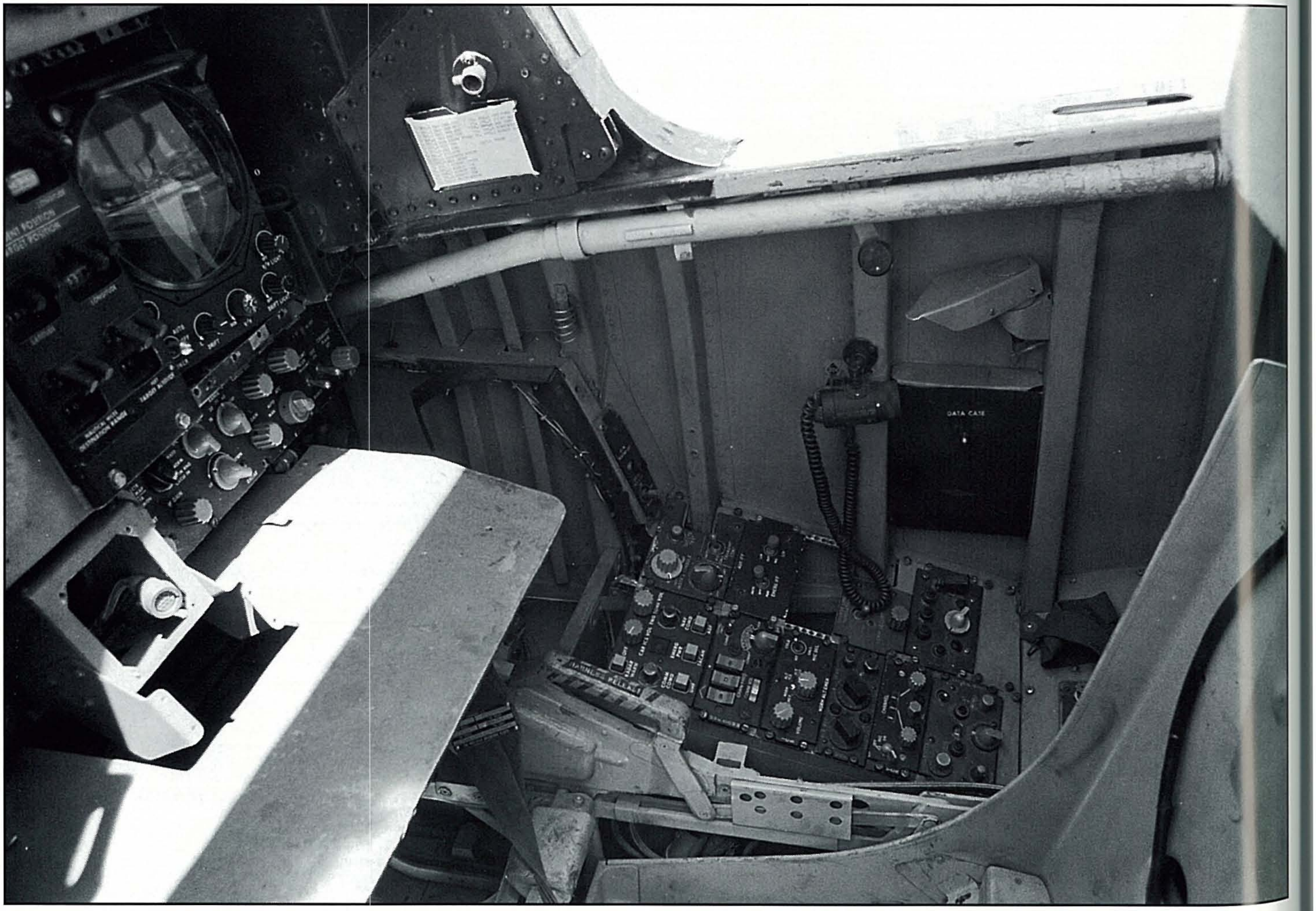
20. TV SCAN INDICATOR
21. SLR MONITOR SCOPE
22. RED FLOOD LIGHTS SWITCH
23. WARNING/CAUTION LIGHTS
24. ATTITUDE INDICATOR
25. RADAR/BAROMETRIC ALTIMETER
26. TRUE AIRSPEED/GROUND SPEED INDICATOR
27. COCKPIT ALTIMETER
27A. IFF CAUTION LIGHT *
27B. ALTIMETER FAIL LIGHT *
28. CLOCK
29. CHANNEL/FREQUENCY INDICATOR
30. POSITION AND DESTINATION INDICATOR
31. OPTICAL VIEWFINDER
32. RADAR CONTROL PANEL
33. CURSOR CONTROL HANDLE
34. B/N CONTROL PANEL
35. B/N WARMUP LIGHT
36. SEAT ADJUST SWITCH
37. INTERIOR LIGHTS PANEL
38. IFF PANEL
38A. IFF PANEL *
39. SIF PANEL
39A. COMM SECURITY VOLUME KNOB
40. COURSELINE NAV SWITCH
41. ECM PANEL (AN/ALQ-55)
42. FUSE PANEL
43. COMPASS PANEL
44. TACAN PANEL
45. AUX UHF PANEL
46. INTERCOM PANEL
47. UHF COMM PANEL
48. AUDIO SELECT PANEL
49. BALLISTIC ADAPTER B
50. BALLISTIC ADAPTER A
51. BALLISTICS CONTROL PANEL
51A. THREAT DISPLAY UNIT (AN/APR-25(V)
51B. AZIMUTH INDICATOR (AN/APR-25(V)

* AIRCRAFT HAVING AFC 296 COMPLIED WITH

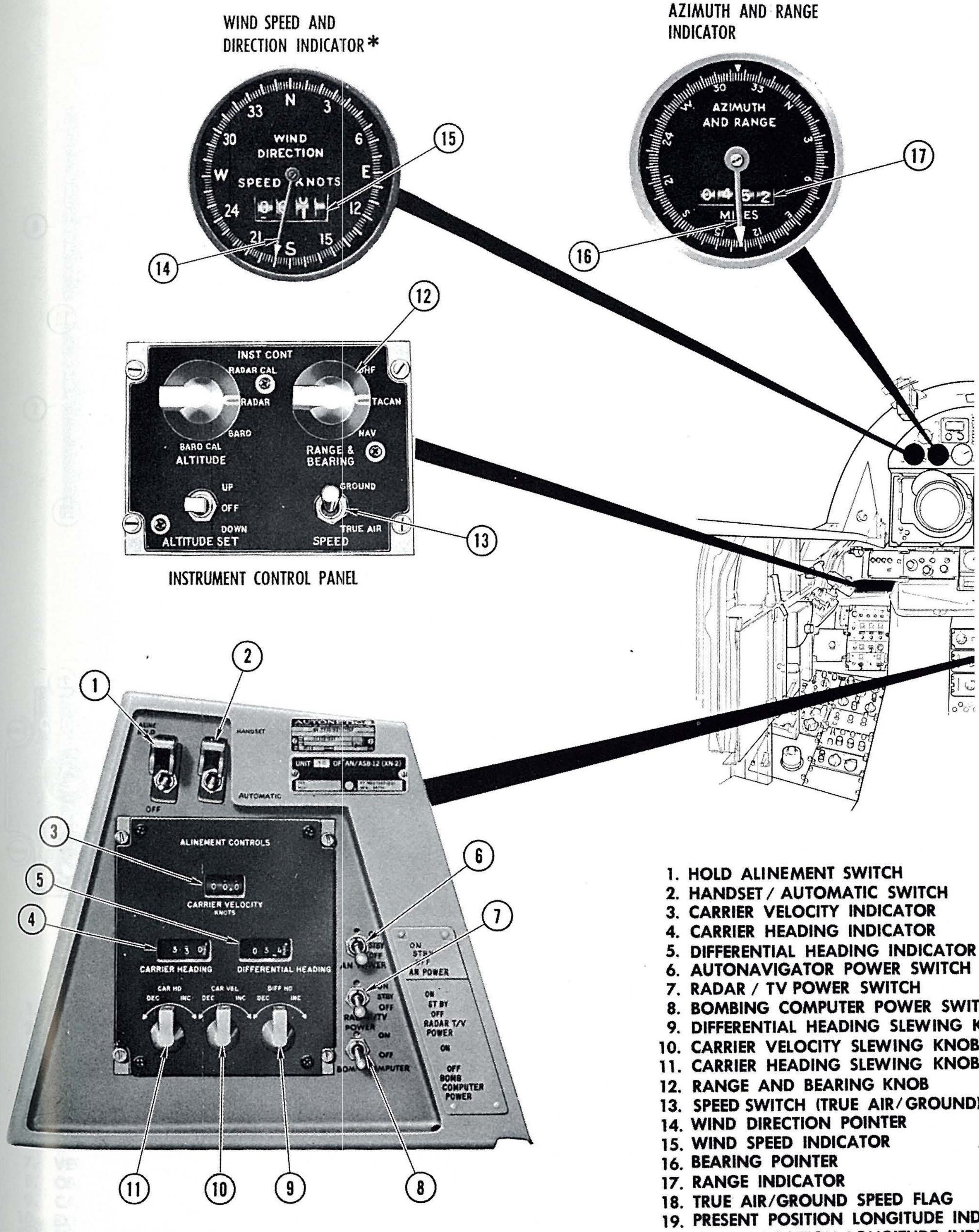
RA-5C RAN LEFT - HAND CONSOLE BuNo 156604



RA-5C RAN RIGHT - HAND CONSOLE BuNo 156614



RA-5C RAN AUTO NAVIGATOR CONTROLS AND NAVAGATION INDICATORS


WIND SPEED AND DIRECTION INDICATOR*
AZIMUTH AND RANGE INDICATOR
N
33
3
30
6
W
E
24
12
21
S
15
WIND DIRECTION
SPEED KNOTS
AZIMUTH AND RANGE
MILES
(15)
(14)
(17)
(16)
(12)
(13)
INST CONT
RADAR CAL
RADAR
BARO
BARO CAL
ALTITUDE
DHF
TACAN
NAV
RANGE & BEARING
UP
OFF
DOWN
ALTITUDE SET
GROUND
TRUE AIR
SPEED
INSTRUMENT CONTROL PANEL
(1)
(2)
(3)
(4)
(5)
(6)
(7)
(8)
(9)
(10)
(11)
HANDSET
AUTOMATIC
OFF
UNIT OF AN/ASB-12 (XN-2)
ALINEMENT CONTROLS
CARRIER VELOCITY KNOTS
CARRIER HEADING
DIFFERENTIAL HEADING
CAR HD
CAR VEL
DIFF HD
DEC
INC
STBY
OFF
AN POWER
ON
STBY
OFF
AN POWER
ON
ST BY
OFF
RADAR T/V POWER
ON
OFF
BOMB COMPUTER POWER
ALINEMENT AND POWER CONTROLS

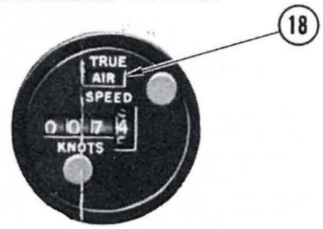
1. HOLD ALINEMENT SWITCH
2. HANDSET / AUTOMATIC SWITCH
3. CARRIER VELOCITY INDICATOR
4. CARRIER HEADING INDICATOR
5. DIFFERENTIAL HEADING INDICATOR
6. AUTONAVIGATOR POWER SWITCH
7. RADAR / TV POWER SWITCH
8. BOMBING COMPUTER POWER SWITCH
9. DIFFERENTIAL HEADING SLEWING KNOB
10. CARRIER VELOCITY SLEWING KNOB
11. CARRIER HEADING SLEWING KNOB
12. RANGE AND BEARING KNOB
13. SPEED SWITCH (TRUE AIR/GROUND)
14. WIND DIRECTION POINTER
15. WIND SPEED INDICATOR
16. BEARING POINTER
17. RANGE INDICATOR
18. TRUE AIR/GROUND SPEED FLAG
19. PRESENT POSITION LONGITUDE INDICATOI
20. TARGET POSITION LONGITUDE INDICATOR
21. TARGET ALTITUDE INDICATOR
22. DESTINATION RANGE INDICATOR

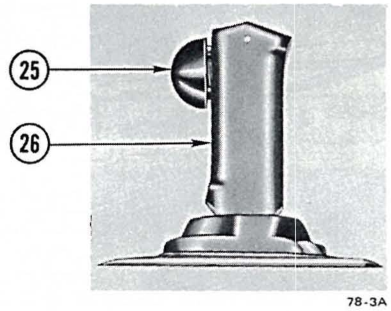
RA-5C RAN AUTO NAVIGATOR CONTROLS AND NAVIGATION INDICATORS

23. TARGET POSITION LATITUDE INDICATOR
24. PRESENT POSITION LATITUDE INDICATOR
25. CURSOR ACTION BUTTON
26. CURSOR CONTROL HANDLE
27. SYSTEM MODE KNOB
28. NAV/BOMB KNOB
29. SET/CORRECT KNOB
30. COORDINATES SELECT KNOB
31. OVERTEMPERATURE LIGHT
32. B/N WARMUP LIGHT
33. NORTH-SOUTH OFFSET KNOB
34. OFFSET INDICATORS
35. WIND SET SWITCH
36. WIND SELECT KNOB
37. AUTONAVIGATOR MODE KNOB
38. ADVANCE MODE LIGHT
39. EAST-WEST OFFSET KNOB
40. ATTACK MODE SELECT KNOB
41. COORDINATES STORAGE BUTTON
42. COURSE LINE NAVIGATION SWITCH

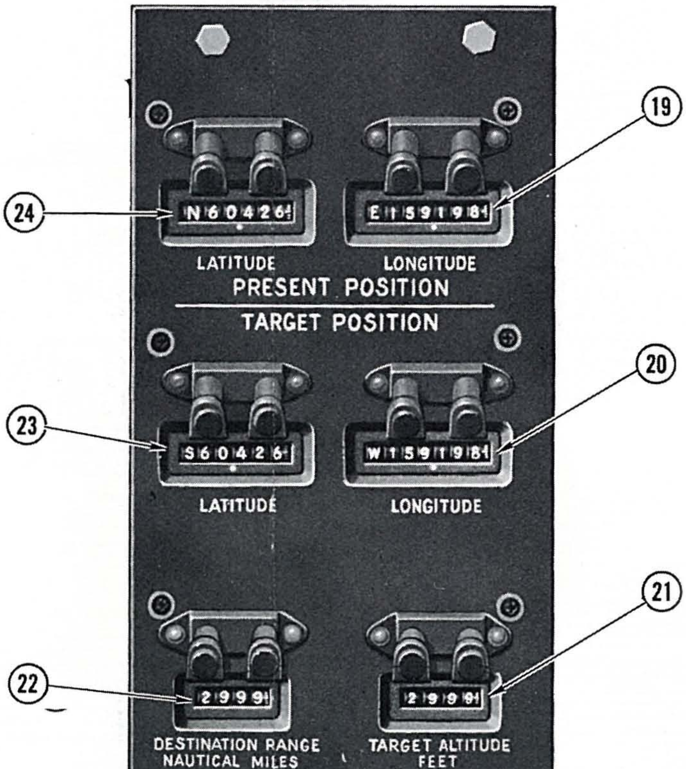
*** LOCATION SHOWN FOR AIRCRAFT 151615 AND SUBSEQUENT**

TRUE AIR SPEED —
GROUNDSPEED INDICATOR

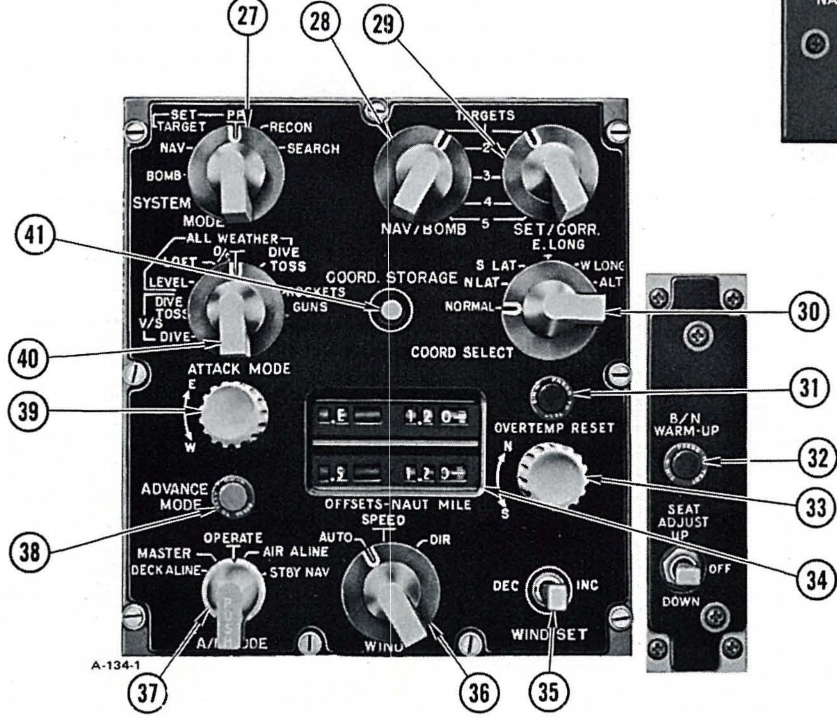

18
TRUE
AIR
SPEED
0074
KNOTS

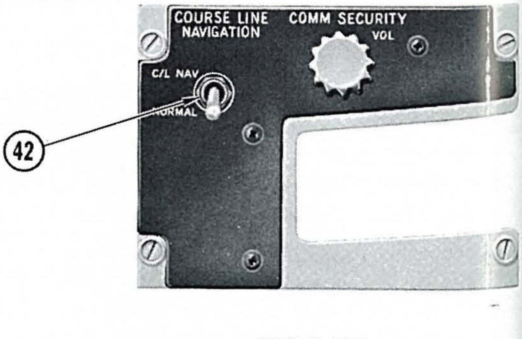


CURSOR CONTROL HANDLE


19
24
N60426
E159198
LATITUDE
LONGITUDE
PRESENT POSITION
TARGET POSITION
20
23
S60426
W159198
LATITUDE
LONGITUDE
21
22
2999
2999
DESTINATION RANGE
NAUTICAL MILES
TARGET ALTITUDE
FEET

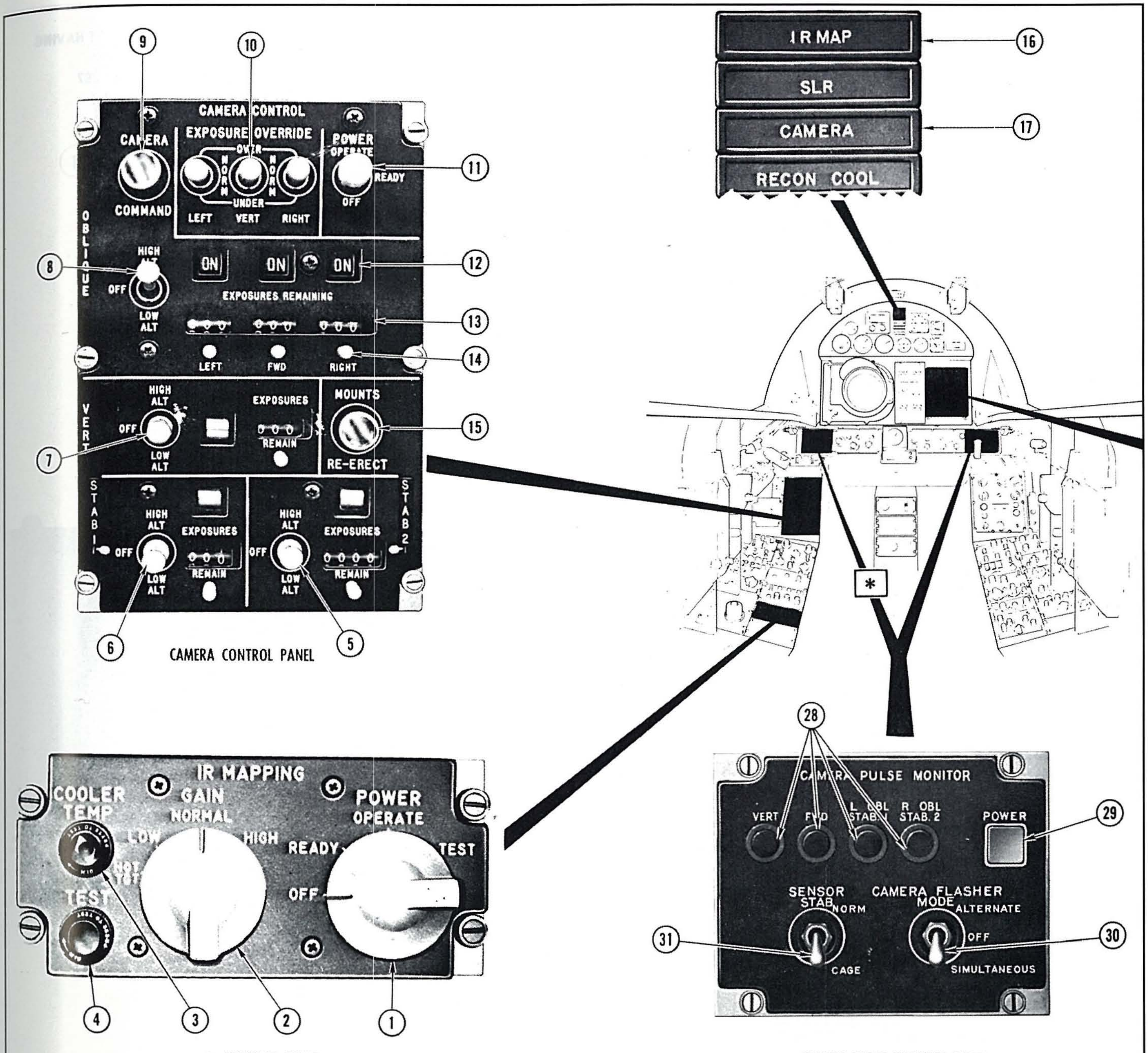
POSITION AND DESTINATION
INDICATOR


27
28
29
SET TARGET
PP
RECON
NAV
SEARCH
BOMB
SYSTEM MODE
TARGETS
2
3
4
5
NAV/BOMB
SET/CORR.
41
ALL WEATHER
O/L
DIVE TOSS
LEVEL
DIVE TOSS
V/S
DIVE
ROCKETS
GUNS
COORD. STORAGE
E. LONG
S LAT
W LONG
N LAT
ALT
NORMAL
30
40
ATTACK MODE
COORD SELECT
39
E
W
31
OVERTEMP RESET
B/N WARM-UP
32
N
S
33
ADVANCE MODE
OFFSETS-NAUT MILE
SEAT ADJUST
UP
OFF
DOWN
38
OPERATE
MASTER
AIR ALINE
DECK ALINE
STBY NAV
PUSH
A/N MODE
SPEED
AUTO
DIR
WIND
DEC
INC
WIND SET
34
A-134-1
37
36
35


COURSE LINE NAVIGATION
COMM SECURITY
VOL
C/L NAV
NORMAL
42

COURSE LINE
NAVIGATION SWITCH

CAMERA, OPTICAL, VIEWFINDER, AND IR MAPPING CONTROLS / INDICATORS


IR MAP
SLR
CAMERA
RECON COOL
CAMERA CONTROL
EXPOSURE OVERRIDE
CAMERA
COMMAND
OVER
NORM
UNDER
LEFT
VERT
RIGHT
POWER
OPERATE
READY
OFF
OBLIQUE
HIGH ALT
OFF
LOW ALT
ON
EXPOSURES REMAINING
LEFT
FWD
RIGHT
VERT
EXPOSURES
REMAIN
MOUNTS
RE-ERECT
STAB 1
STAB 2
IR MAPPING
COOLER TEMP
TEST
GAIN
NORMAL
LOW
HIGH
POWER
OPERATE
READY
TEST
OFF
CAMERA PULSE MONITOR
VERT
FWD
L OBL STAB 1
R OBL STAB 2
POWER
SENSOR STAB
NORM
CAGE
CAMERA FLASHER MODE
ALTERNATE
OFF
SIMULTANEOUS
*
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
28
29
30
31

CAMERA CONTROL PANEL

IR MAPPING PANEL

CAMERA PULSE MONITOR PANEL

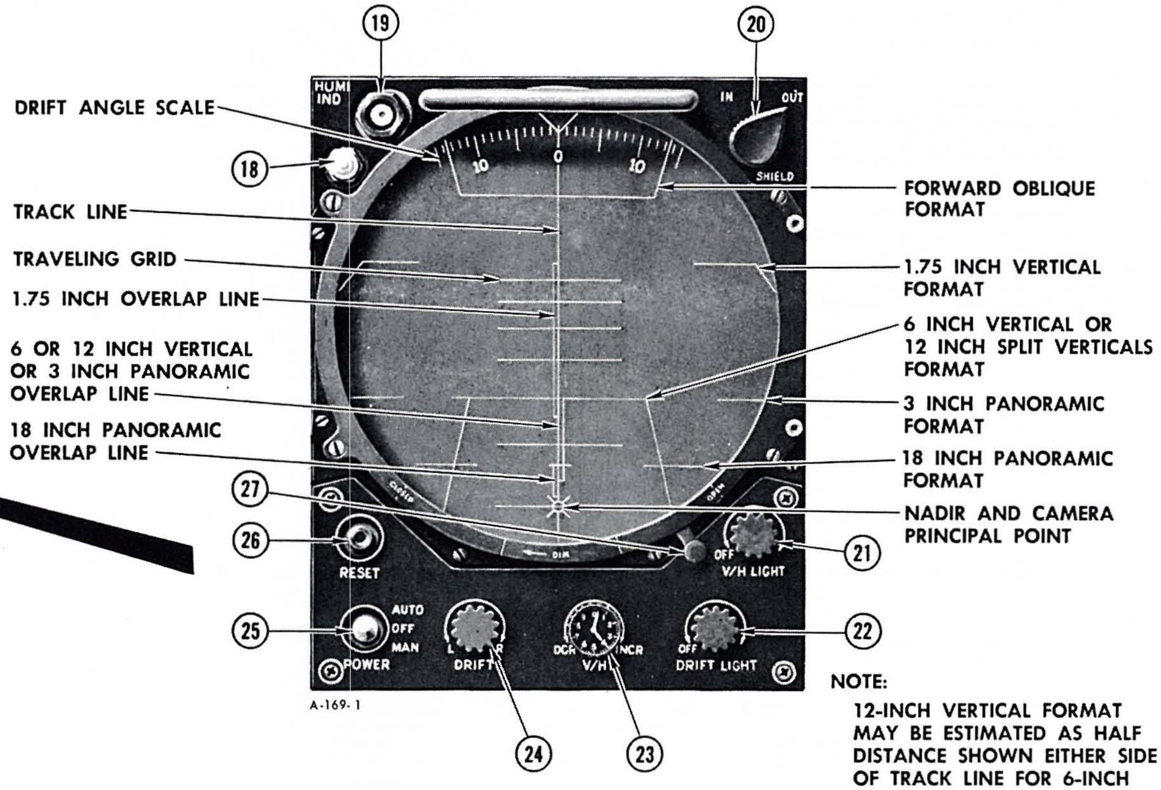
1. IR POWER SWITCH
2. IR GAIN SWITCH
3. IR COOLER TEMPERATURE LIGHT
4. IR TEST LIGHT
5. 3 INCH PAN OR NO. 2 FULLY STABILIZED CAMERA MODE SWITCH
6. 18 INCH PAN OR NO. 1 FULLY STABILIZED CAMERA MODE SWITCH
7. VERTICAL CAMERA MODE SWITCH
8. OBLIQUE CAMERA MODE SWITCH
9. CAMERA COMMAND BUTTON
10. EXPOSURE OVERRIDE SWITCHES
11. MASTER POWER SWITCH
12. READINESS INDICATOR (TYPICAL)
13. EXPOSURES REMAINING COUNTER (TYPICAL)
14. COUNTER SET KNOBS (TYPICAL)
15. MOUNTS ADVISORY LIGHT/RE-ERECT BUTTON
16. IR MAP CAUTION LIGHT
17. CAMERA CAUTION LIGHT
18. VIEWFINDER PRESSURIZATION FITTING
19. HUMIDITY INDICATOR
20. BLAST SHIELD KNOB
21. V/H LIGHT KNOB
22. DRIFT LIGHT KNOB
23. V/H CONTROL KNOB (AIRCRAFT HAVING AVC 582 COMPLIED WITH)
24. DRIFT CONTROL KNOB
25. VIEWFINDER POWER KNOB
26. RESET BUTTON
27. POLAROID FILTER CONTROL LEVER
28. CAMERA PULSE MONITOR SWITCHES
29. CAMERA PULSE MONITOR POWER BUTTON
30. CAMERA FLASHER MODE SWITCH
31. SENSOR STABILIZATION SWITCH ‡

✱ LOCATION ON AIRCRAFT 156608 THROUGH 156653 AND AIRCRAFT HAVING AFC 216 COMPLIED WITH

† AIRCRAFT HAVING AFC 312 COMPLIED WITH

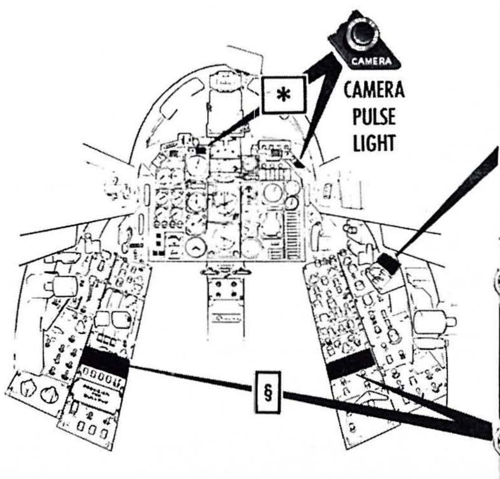
§ (LOCATION ON AIRCRAFT HAVING AFC 233 COMPLIED WITH)

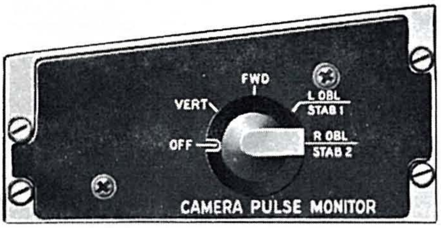
‡ AIRCRAFT HAVING AFC 297 COMPLIED WITH


(19)
(20)
DRIFT ANGLE SCALE
HUMI IND
IN
OUT
SHIELD
10
0
10
(18)
TRACK LINE
TRAVELING GRID
1.75 INCH OVERLAP LINE
6 OR 12 INCH VERTICAL OR 3 INCH PANORAMIC OVERLAP LINE
18 INCH PANORAMIC OVERLAP LINE
FORWARD OBLIQUE FORMAT
1.75 INCH VERTICAL FORMAT
6 INCH VERTICAL OR 12 INCH SPLIT VERTICALS FORMAT
3 INCH PANORAMIC FORMAT
18 INCH PANORAMIC FORMAT
NADIR AND CAMERA PRINCIPAL POINT
CLOSE
OPEN
DIM
(27)
(26)
RESET
OFF
V/H LIGHT
(21)
(25)
AUTO
OFF
MAN
POWER
L
R
DRIFT
DCR
INCR
V/H
OFF
DRIFT LIGHT
(22)
A-169-1
(24)
(23)

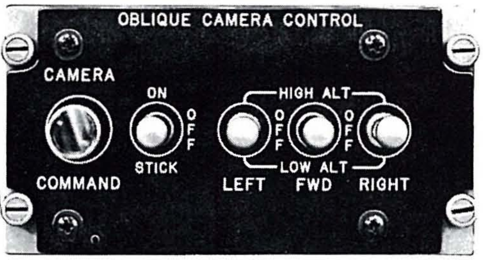
NOTE:
12-INCH VERTICAL FORMAT MAY BE ESTIMATED AS HALF DISTANCE SHOWN EITHER SIDE OF TRACK LINE FOR 6-INCH VERTICAL

OPTICAL VIEWFINDER
AND CONTROLS

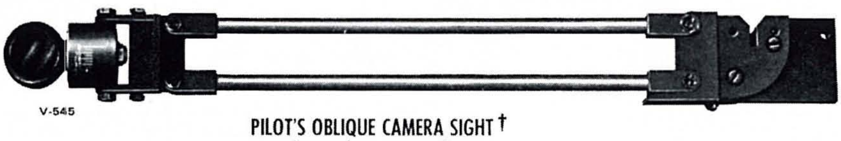

CAMERA
✱
CAMERA
PULSE
LIGHT
§


FWD
VERT
L OBL
STAB 1
OFF
R OBL
STAB 2
CAMERA PULSE MONITOR

PILOT'S CAMERA PULSE
MONITOR KNOB

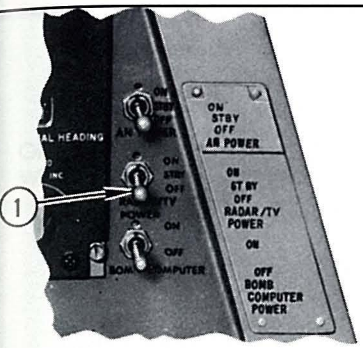

OBLIQUE CAMERA CONTROL
CAMERA
ON
OFF
STICK
HIGH ALT
OFF
OFF
LOW ALT
COMMAND
LEFT
FWD
RIGHT

PILOT'S OBLIQUE CAMERA
CONTROL PANEL

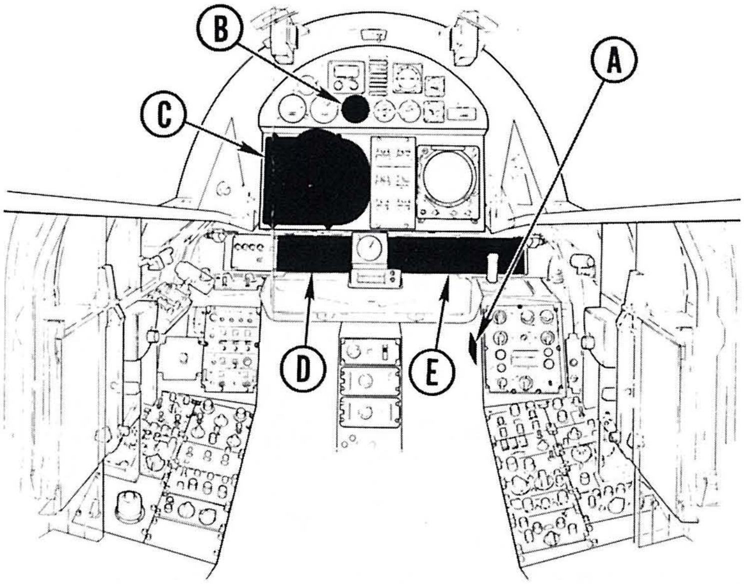


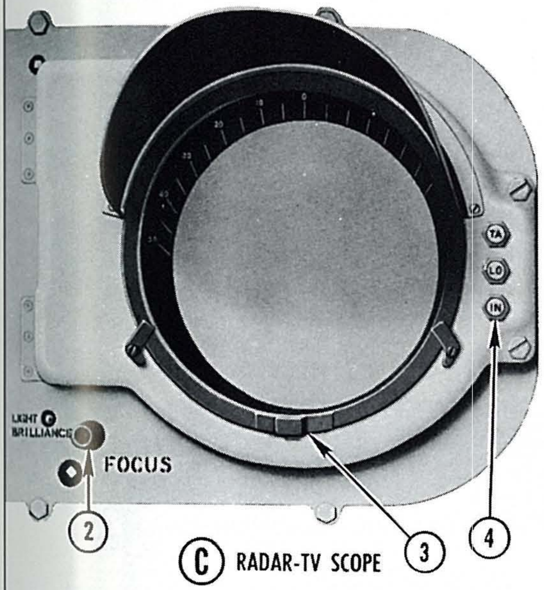
PILOT'S OBLIQUE CAMERA SIGHT †
(on each canopy rail)

RAN RA-5C RADAR / TV CONTROLS AND INDICATORS

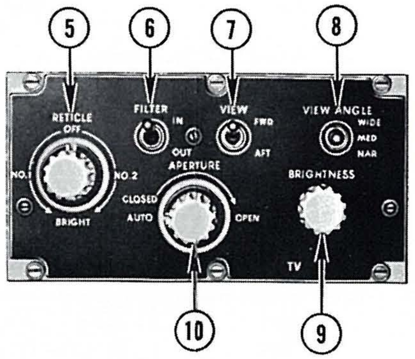

1
ON
STBY
OFF
AN POWER
ON
ST BY
OFF
RADAR/TV
POWER
ON
OFF
BOMB
COMPUTER
POWER

Ⓐ AUTONAVIGATOR
RADAR-TV AND
BOMB COMPUTER
POWER SWITCHES

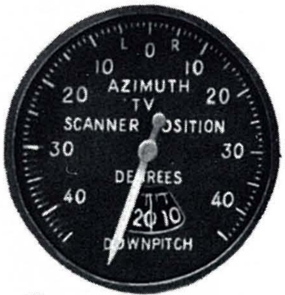



TA
LO
IN
LIGHT
BRILLIANCE
FOCUS
2
3
4

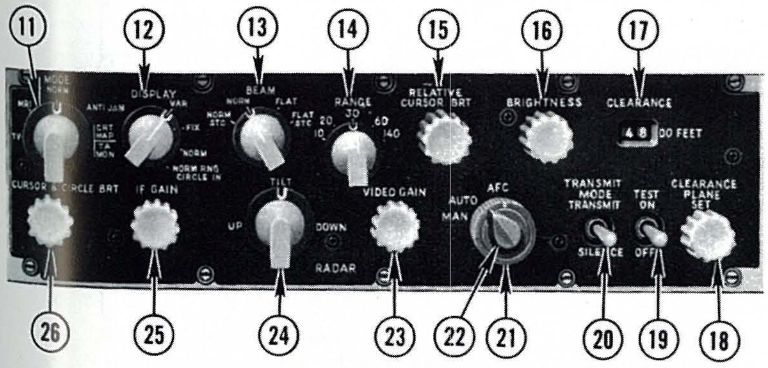
Ⓒ RADAR-TV SCOPE


5
6
7
8
RETICLE
OFF
NO.1
NO.2
BRIGHT
FILTER
IN
OUT
VIEW
FWD
AFT
VIEW ANGLE
WIDE
MED
NAR
APERTURE
CLOSED
AUTO
OPEN
BRIGHTNESS
TV
10
9

Ⓓ TV CONTROL PANEL

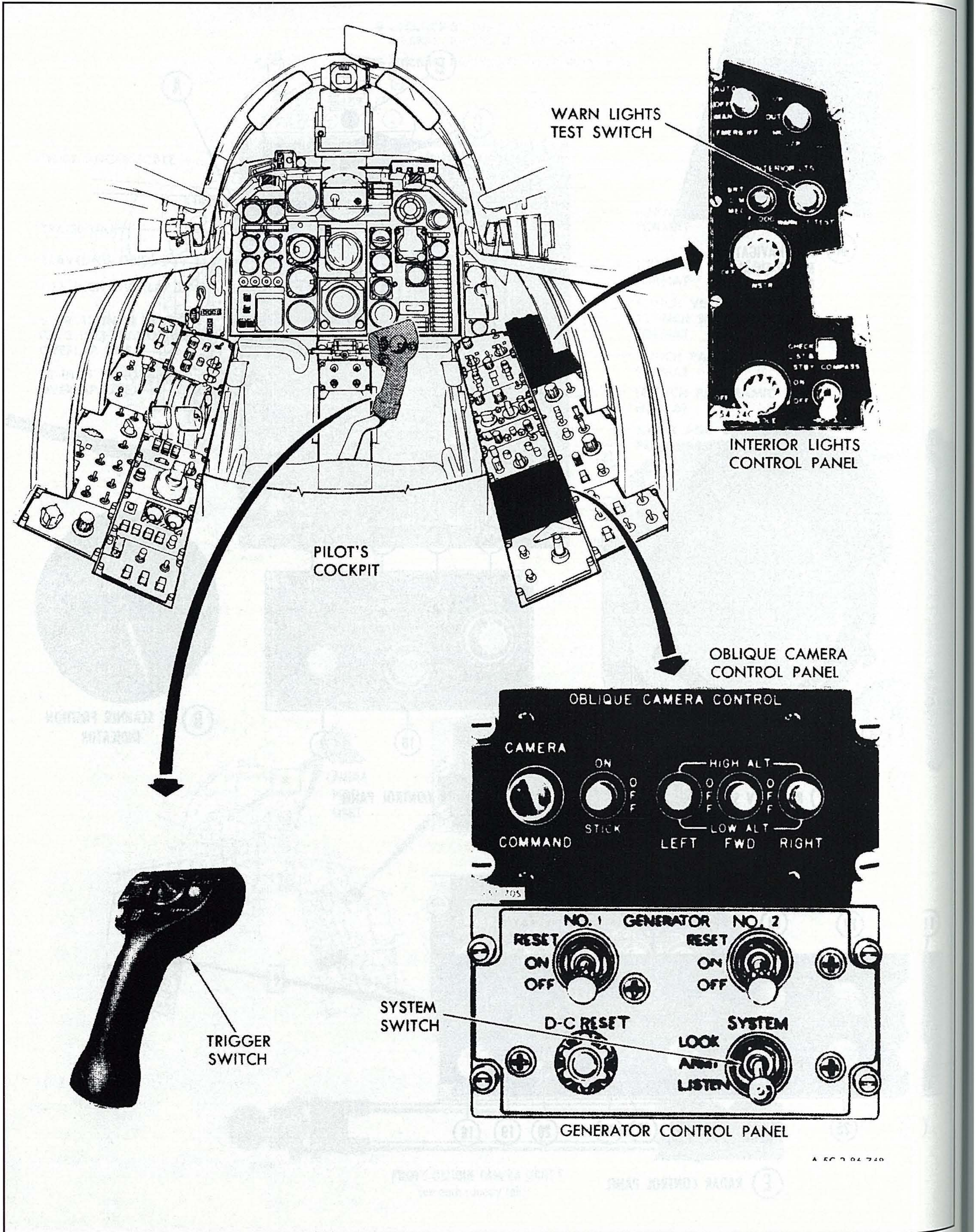

L
R
10
10
20
20
30
30
40
40
AZIMUTH
TV
SCANNER POSITION
DEGREES
DOWNPITCH

Ⓑ TV SCANNER POSITION
INDICATOR

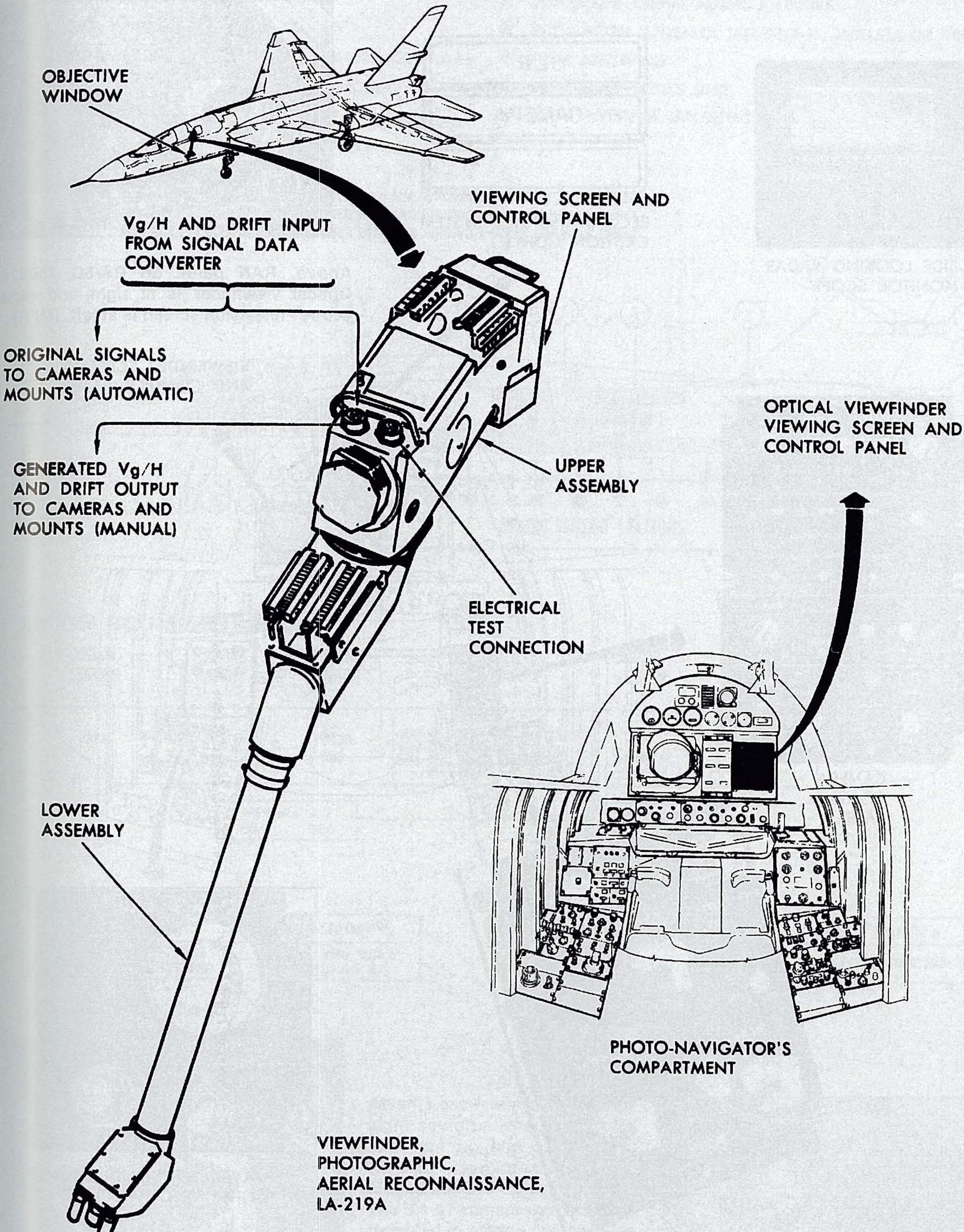

11
12
13
14
15
16
17
MODE
NORM
MRI
TV
DISPLAY
ANTI JAM
VAR
FIX
NORM
NORM RNG
CIRCLE IN
BEAM
NORM
FLAT
NORM STC
FLAT STC
RANGE
10
20
30
60
140
RELATIVE
CURSOR BRT
BRIGHTNESS
CLEARANCE
48
00 FEET
CURSOR & CIRCLE BRT
IF GAIN
TILT
UP
DOWN
RADAR
VIDEO GAIN
AFC
AUTO
MAN
TRANSMIT
MODE
TRANSMIT
SILENCE
TEST
ON
OFF
CLEARANCE
PLANE
SET
26
25
24
23
22
21
20
19
18

Ⓔ RADAR CONTROL PANEL

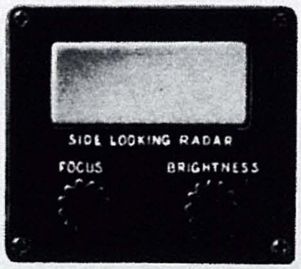
PILOT'S COCKPIT RECONNAISSANCE CONTROLS AND INDICATORS


WARN LIGHTS TEST SWITCH
INTERIOR LIGHTS CONTROL PANEL
PILOT'S COCKPIT
OBLIQUE CAMERA CONTROL PANEL
OBLIQUE CAMERA CONTROL
CAMERA
COMMAND
ON
OFF
STICK
HIGH ALT
LOW ALT
LEFT
FWD
RIGHT
NO. 1
GENERATOR
NO. 2
RESET
ON
OFF
D-C RESET
SYSTEM
LOOK
LISTEN
SYSTEM SWITCH
TRIGGER SWITCH
GENERATOR CONTROL PANEL
CHECK
STBY COMPASS

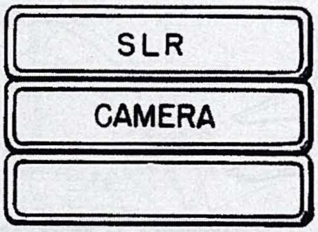
RAN STATION OPTICAL VIEWFINDER INSTALLATION


OBJECTIVE WINDOW
Vg/H AND DRIFT INPUT FROM SIGNAL DATA CONVERTER
VIEWING SCREEN AND CONTROL PANEL
ORIGINAL SIGNALS TO CAMERAS AND MOUNTS (AUTOMATIC)
OPTICAL VIEWFINDER VIEWING SCREEN AND CONTROL PANEL
GENERATED Vg/H AND DRIFT OUTPUT TO CAMERAS AND MOUNTS (MANUAL)
UPPER ASSEMBLY
ELECTRICAL TEST CONNECTION
LOWER ASSEMBLY
PHOTO-NAVIGATOR'S COMPARTMENT
VIEWFINDER, PHOTOGRAPHIC, AERIAL RECONNAISSANCE, LA-219A

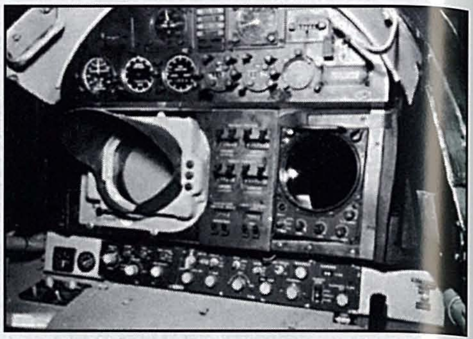
RAN RECONNAISSANCE SYSTEMS CONTROLS AND INDICATORS


SIDE LOOKING RADAR
FOCUS
BRIGHTNESS

SIDE LOOKING RADAR MONITOR SCOPE

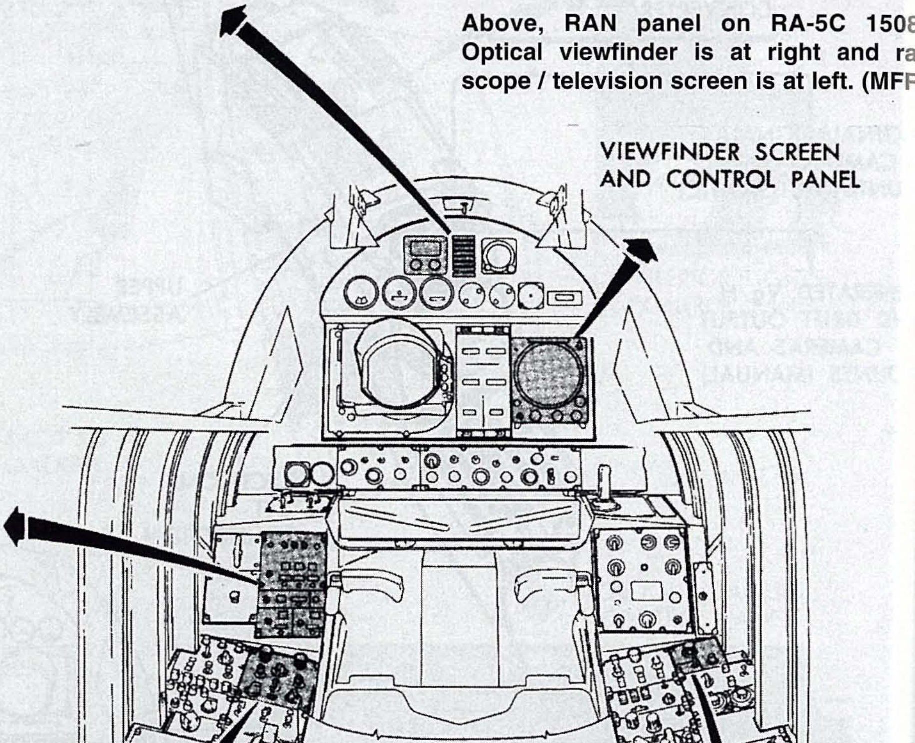


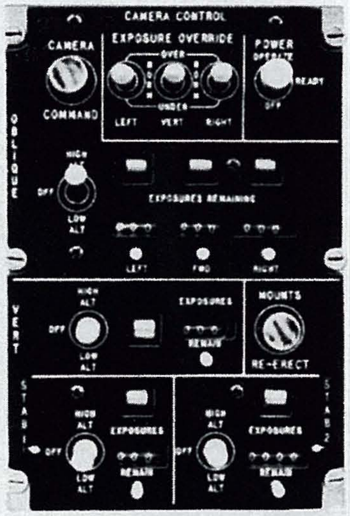
RECONNAISSANCE SYSTEM CAUTION LIGHTS



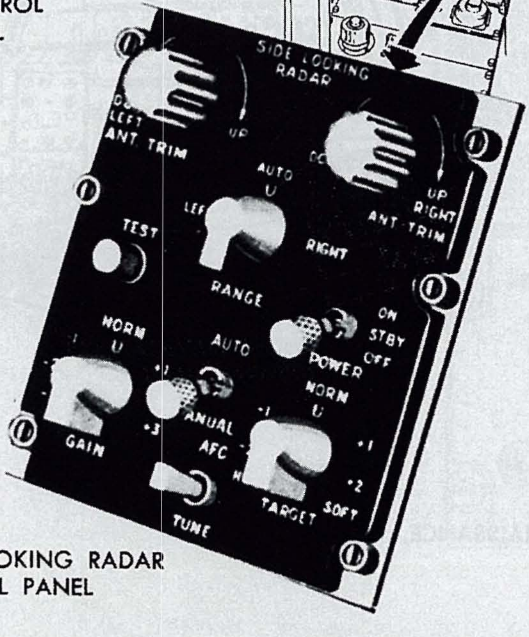
Above, RAN panel on RA-5C 150826. Optical viewfinder is at right and radar scope / television screen is at left. (MFR)

VIEWFINDER SCREEN AND CONTROL PANEL

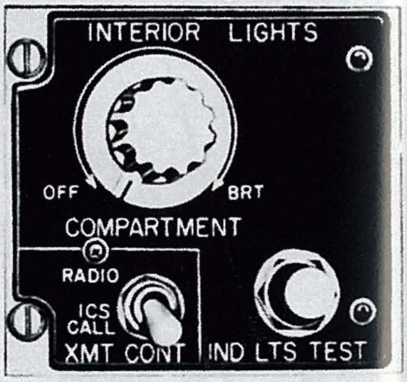



CAMERA CONTROL
CAMERA
EXPOSURE OVERRIDE
OVER
UNDER
LEFT
VERT
RIGHT
POWER
OPERATE
READY
OFF
COMMAND
OBLIQUE
HIGH ALT
LOW ALT
OFF
EXPOSURES REMAINING
LEFT
FWD
RIGHT
VERT
EXPOSURES
REMAIN
MOUNTS
RE-ERECT
STAB 1
STAB 2
EXPOSURES
REMAIN

CAMERA CONTROL PANEL


SIDE LOOKING RADAR
DOWN
LEFT
ANT TRIM
UP
DOWN
UP
RIGHT
ANT TRIM
AUTO
LEFT
RIGHT
TEST
RANGE
NORM
AUTO
ON
STBY
OFF
POWER
MANUAL
NORM
GAIN
+3
AFC
+1
+2
TUNE
TARGET
SOFT

SIDE LOOKING RADAR CONTROL PANEL

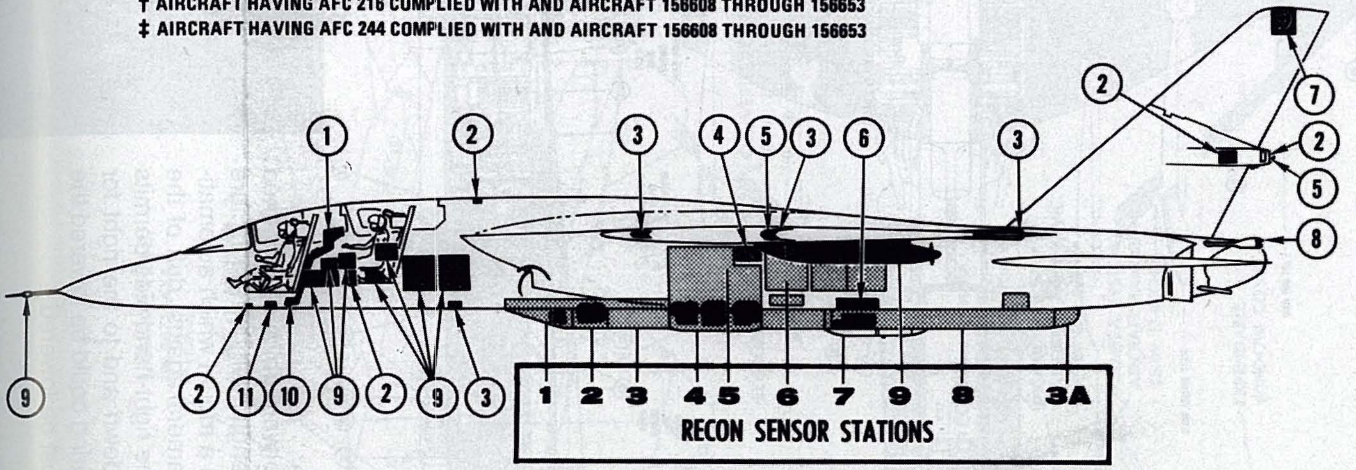

INTERIOR LIGHTS
OFF
BRT
COMPARTMENT
RADIO
ICS CALL
XMT CONT
IND LTS TEST

NAVIGATOR'S INDICATING LIGHTS TEST SWITCH

RA-5C RECON AND ECM EQUIPMENT LAYOUT

1. **OPTICAL VIEWFINDER**
2. **DECM ANTENNAS (AN/APR-18)**
3. **DECM ANTENNAS (AN/ALQ-41, AND-51A OR-100*)**
4. **RECON CONTROL & INTEGRATION MODULE**
5. **DECM ANTENNAS (AN/APR-25V) †**
6. **INFRARED DETECTING SET, AN/AAS-21 ‡**
7. **DUPLEX UHF COMM/ALQ-55 ANTENNA**
8. **DECM BOOM ANTENNA (AN/ALQ-41, AND-51A OR-100*)**
9. **PECM ANTENNAS**
10. **VIEWFINDER OPTICS UNIT**
11. **DECM ANTENNA (AN/APR-27) †**

* AIRCRAFT HAVING AFC 246 COMPLIED WITH AND AIRCRAFT 156608 THROUGH 156653
† AIRCRAFT HAVING AFC 216 COMPLIED WITH AND AIRCRAFT 156608 THROUGH 156653
‡ AIRCRAFT HAVING AFC 244 COMPLIED WITH AND AIRCRAFT 156608 THROUGH 156653



RECON EQUIPMENT INDEX

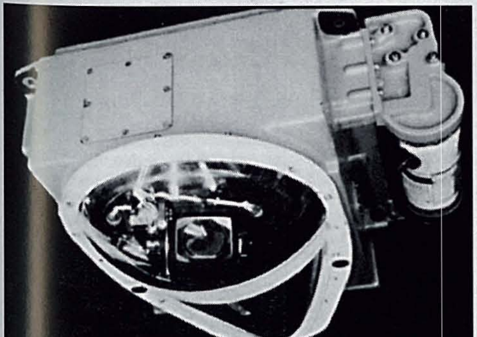
SENSOR STATION 1	SENSOR STATION 2	SENSOR STATION 3	SENSOR STATION 4	SENSOR STATION 7	SENSOR STATION 8	SENSOR STATION 3A
002	003 016 023	PECM 022	MODULE 4-1 008 030 034 038 005 006 009 031 035 039 007 021 032 036 020 033 037	IR 888	SLR 001	PECM

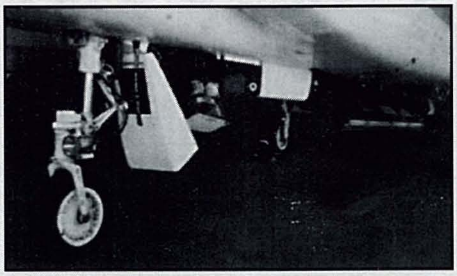
MODULE 4-2	
004	006

MODULE 4-3	
010	012
011	013
014	015
017	019
018	025
019	042
024	
026	
027	
028	
029	
040	
041	

SENSOR STATION 5	SENSOR STATION 9
RECON ELECTRONICS (COLLECTION SYSTEM)	FLASHER POD USED WITH MODULE 4-3

SENSOR STATION 6
PECM CANNISTERS

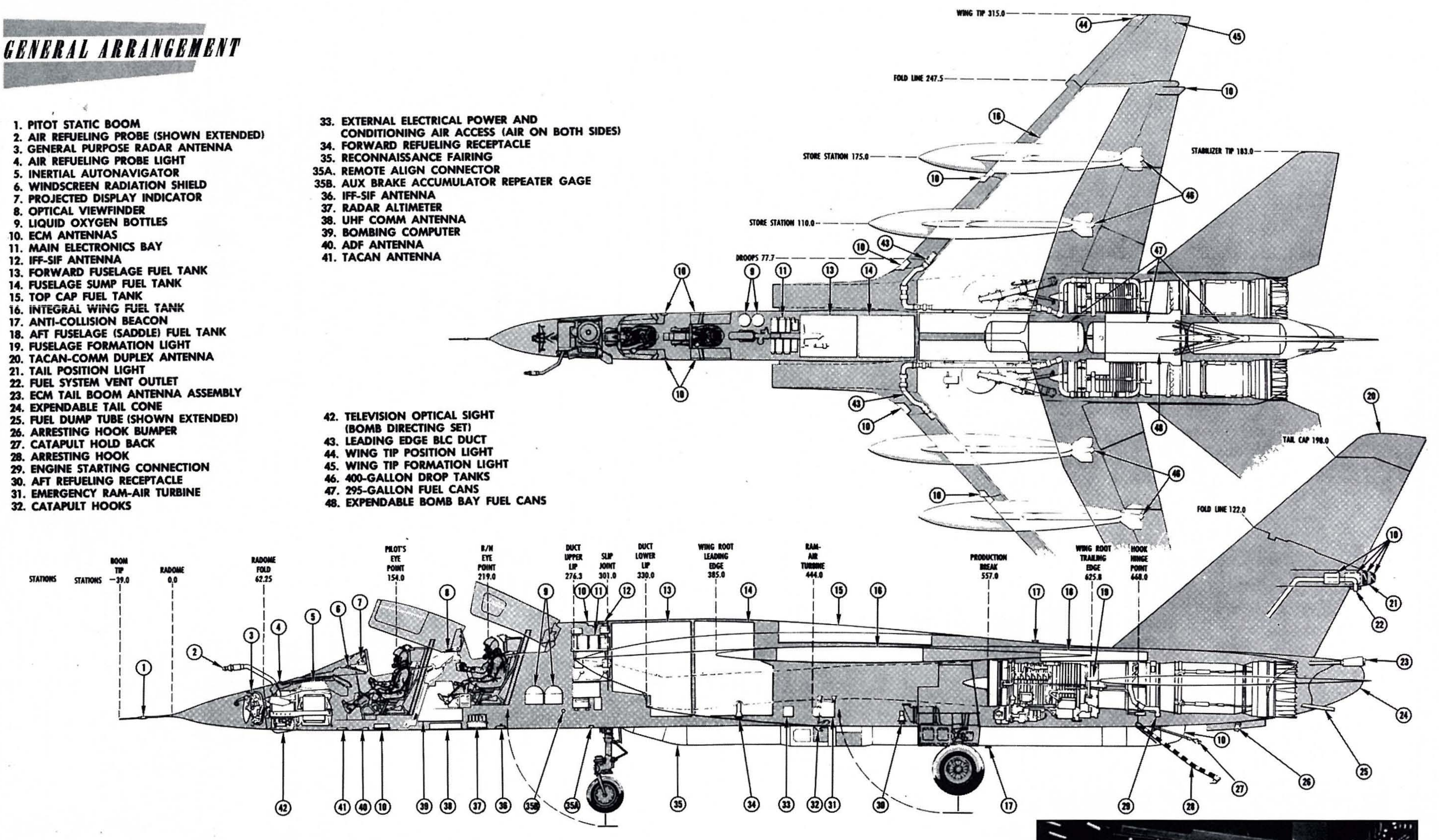


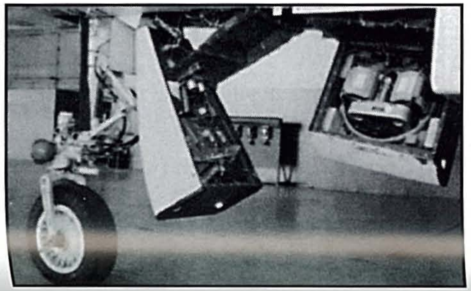


At left, nose-mounted TV optical sight could be manipulated 45° left, right, up, and down. (MFR) At right, sensor station one hinged forward for easy access. The KA-51 camera was normally mounted in station one and was fixed facing forward at a 11.5° down angle. (MFR)

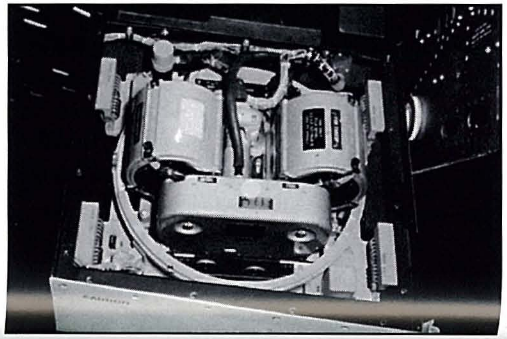
GENERAL ARRANGEMENT

1. PITOT STATIC BOOM
2. AIR REFUELING PROBE (SHOWN EXTENDED)
3. GENERAL PURPOSE RADAR ANTENNA
4. AIR REFUELING PROBE LIGHT
5. INERTIAL AUTONAVIGATOR
6. WINDSCREEN RADIATION SHIELD
7. PROJECTED DISPLAY INDICATOR
8. OPTICAL VIEWFINDER
9. LIQUID OXYGEN BOTTLES
10. ECM ANTENNAS
11. MAIN ELECTRONICS BAY
12. IFF-SIF ANTENNA
13. FORWARD FUSELAGE FUEL TANK
14. FUSELAGE SUMP FUEL TANK
15. TOP CAP FUEL TANK
16. INTEGRAL WING FUEL TANK
17. ANTI-COLLISION BEACON
18. AFT FUSELAGE (SADDLE) FUEL TANK
19. FUSELAGE FORMATION LIGHT
20. TACAN-COMM DUPLEX ANTENNA
21. TAIL POSITION LIGHT
22. FUEL SYSTEM VENT OUTLET
23. ECM TAIL BOOM ANTENNA ASSEMBLY
24. EXPENDABLE TAIL CONE
25. FUEL DUMP TUBE (SHOWN EXTENDED)
26. ARRESTING HOOK BUMPER
27. CATAPULT HOLD BACK
28. ARRESTING HOOK
29. ENGINE STARTING CONNECTION
30. AFT REFUELING RECEPTACLE
31. EMERGENCY RAM-AIR TURBINE
32. CATAPULT HOOKS
33. EXTERNAL ELECTRICAL POWER AND CONDITIONING AIR ACCESS (AIR ON BOTH SIDES)
34. FORWARD REFUELING RECEPTACLE
35. RECONNAISSANCE FAIRING
35A. REMOTE ALIGN CONNECTOR
35B. AUX BRAKE ACCUMULATOR REPEATER GAGE
36. IFF-SIF ANTENNA
37. RADAR ALTIMETER
38. UHF COMM ANTENNA
39. BOMBING COMPUTER
40. ADF ANTENNA
41. TACAN ANTENNA
42. TELEVISION OPTICAL SIGHT (BOMB DIRECTING SET)
43. LEADING EDGE BLC DUCT
44. WING TIP POSITION LIGHT
45. WING TIP FORMATION LIGHT
46. 400-GALLON DROP TANKS
47. 295-GALLON FUEL CANS
48. EXPENDABLE BOMB BAY FUEL CANS

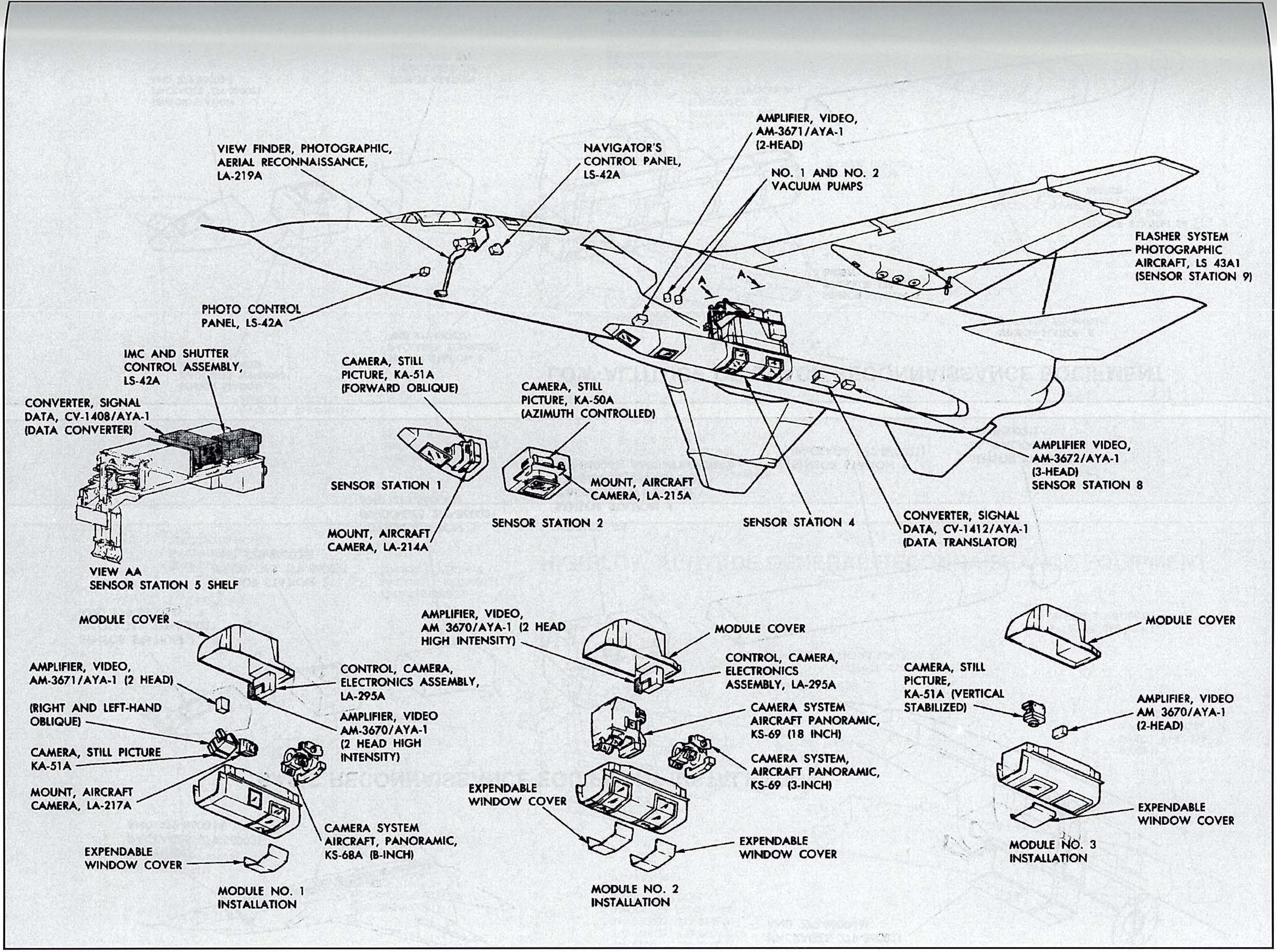

WING TIP 315.0
FOLD LINE 247.5
STORE STATION 175.0
STORE STATION 110.0
DROOPS 77.7
STABILIZER TIP 183.0
TAIL CAP 198.0
FOLD LINE 122.0
STATIONS
STATIONS
BOOM TIP −39.0
RADOME 0.0
RADOME FOLD 62.25
PILOT'S EYE POINT 154.0
B/N EYE POINT 219.0
DUCT UPPER LIP 276.3
SLIP JOINT 301.0
DUCT LOWER LIP 330.0
WING ROOT LEADING EDGE 385.0
RAM-AIR TURBINE 444.0
PRODUCTION BREAK 557.0
WING ROOT TRAILING EDGE 625.8
HOOK HINGE POINT 668.0

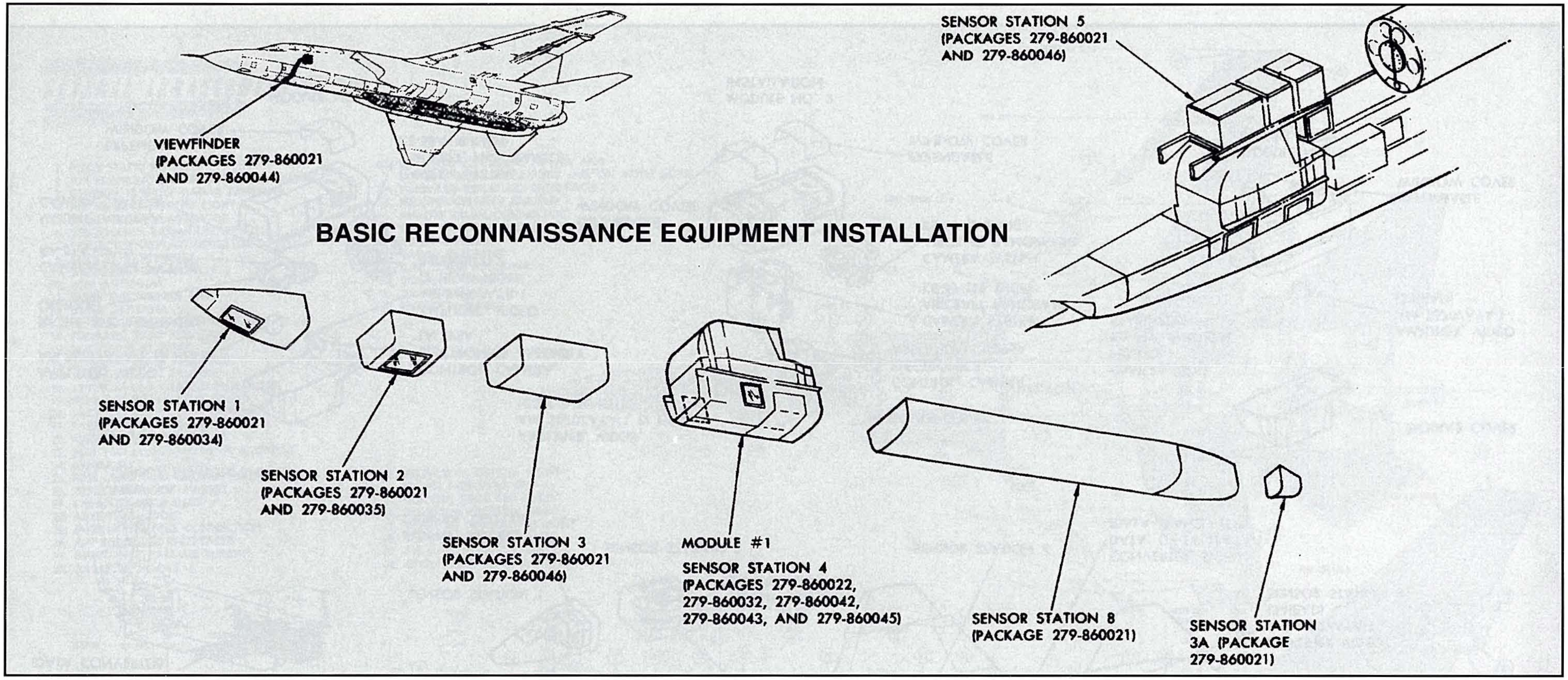


At left, sensor station one and two in their open position. (MFR) At right, open sensor station two with camera installed. (MFR)



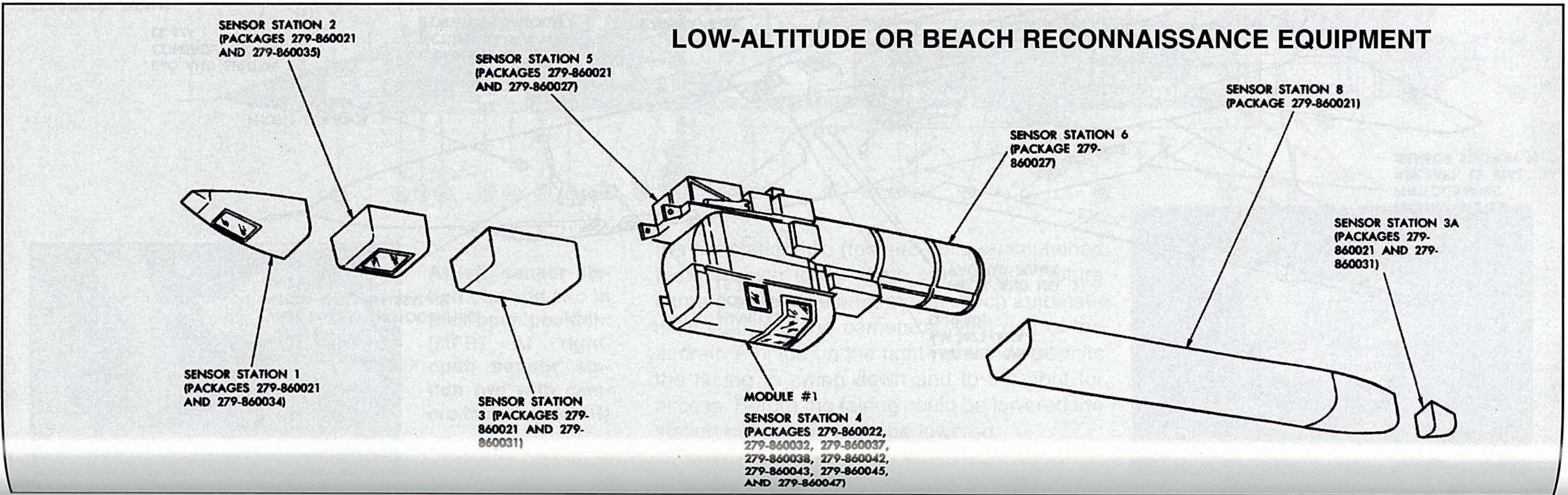
Sensor station two (forward oblique) contained the 1.75-inch focal length vertical still picture camera supported on a mount which automatically stabilizes the camera against drift of the aircraft. A hinge on the right-hand side permits the fairing to swing down and to the right for access. Before the fairing could be lowered the station one fairing must be lowered.


VIEW FINDER, PHOTOGRAPHIC, AERIAL RECONNAISSANCE, LA-219A
NAVIGATOR'S CONTROL PANEL, LS-42A
AMPLIFIER, VIDEO, AM-3671/AYA-1 (2-HEAD)
NO. 1 AND NO. 2 VACUUM PUMPS
FLASHER SYSTEM PHOTOGRAPHIC AIRCRAFT, LS 43A1 (SENSOR STATION 9)
A
A
PHOTO CONTROL PANEL, LS-42A
IMC AND SHUTTER CONTROL ASSEMBLY, LS-42A
CONVERTER, SIGNAL DATA, CV-1408/AYA-1 (DATA CONVERTER)
CAMERA, STILL PICTURE, KA-51A (FORWARD OBLIQUE)
CAMERA, STILL PICTURE, KA-50A (AZIMUTH CONTROLLED)
AMPLIFIER VIDEO, AM-3672/AYA-1 (3-HEAD) SENSOR STATION 8
SENSOR STATION 1
MOUNT, AIRCRAFT CAMERA, LA-215A
MOUNT, AIRCRAFT CAMERA, LA-214A
SENSOR STATION 2
SENSOR STATION 4
CONVERTER, SIGNAL DATA, CV-1412/AYA-1 (DATA TRANSLATOR)
VIEW AA SENSOR STATION 5 SHELF
MODULE COVER
AMPLIFIER, VIDEO, AM-3671/AYA-1 (2 HEAD)
(RIGHT AND LEFT-HAND OBLIQUE)
CAMERA, STILL PICTURE KA-51A
MOUNT, AIRCRAFT CAMERA, LA-217A
EXPENDABLE WINDOW COVER
CONTROL, CAMERA, ELECTRONICS ASSEMBLY, LA-295A
AMPLIFIER, VIDEO AM-3670/AYA-1 (2 HEAD HIGH INTENSITY)
CAMERA SYSTEM AIRCRAFT, PANORAMIC, KS-68A (3-INCH)
MODULE NO. 1 INSTALLATION
AMPLIFIER, VIDEO, AM 3670/AYA-1 (2 HEAD HIGH INTENSITY)
MODULE COVER
CONTROL, CAMERA, ELECTRONICS ASSEMBLY, LA-295A
CAMERA SYSTEM AIRCRAFT PANORAMIC, KS-69 (18 INCH)
CAMERA SYSTEM, AIRCRAFT PANORAMIC, KS-69 (3-INCH)
EXPENDABLE WINDOW COVER
EXPENDABLE WINDOW COVER
MODULE NO. 2 INSTALLATION
MODULE COVER
CAMERA, STILL PICTURE, KA-51A (VERTICAL STABILIZED)
AMPLIFIER, VIDEO AM 3670/AYA-1 (2-HEAD)
EXPENDABLE WINDOW COVER
MODULE NO. 3 INSTALLATION



BASIC RECONNAISSANCE EQUIPMENT INSTALLATION

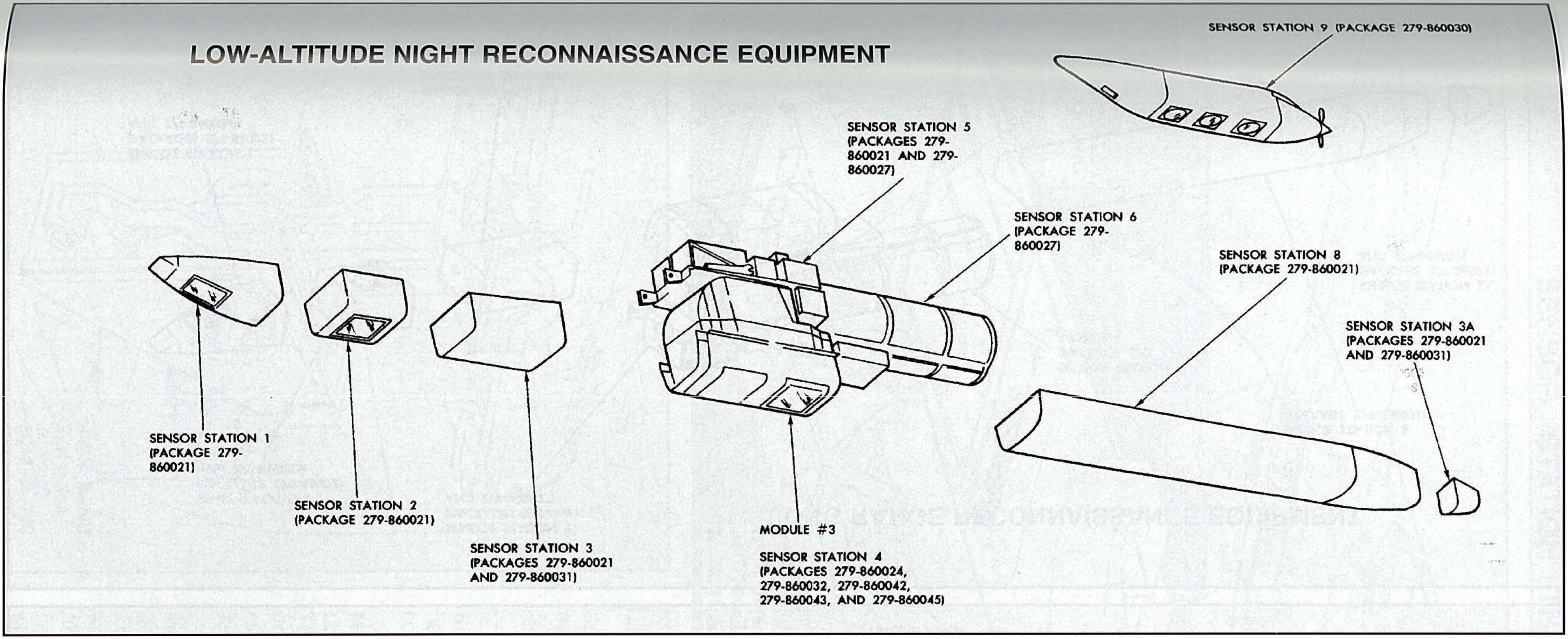
SENSOR STATION 5
(PACKAGES 279-860021
AND 279-860046)
VIEWFINDER
(PACKAGES 279-860021
AND 279-860044)
SENSOR STATION 1
(PACKAGES 279-860021
AND 279-860034)
SENSOR STATION 2
(PACKAGES 279-860021
AND 279-860035)
SENSOR STATION 3
(PACKAGES 279-860021
AND 279-860046)
MODULE #1
SENSOR STATION 4
(PACKAGES 279-860022,
279-860032, 279-860042,
279-860043, AND 279-860045)
SENSOR STATION 8
(PACKAGE 279-860021)
SENSOR STATION
3A (PACKAGE
279-860021)



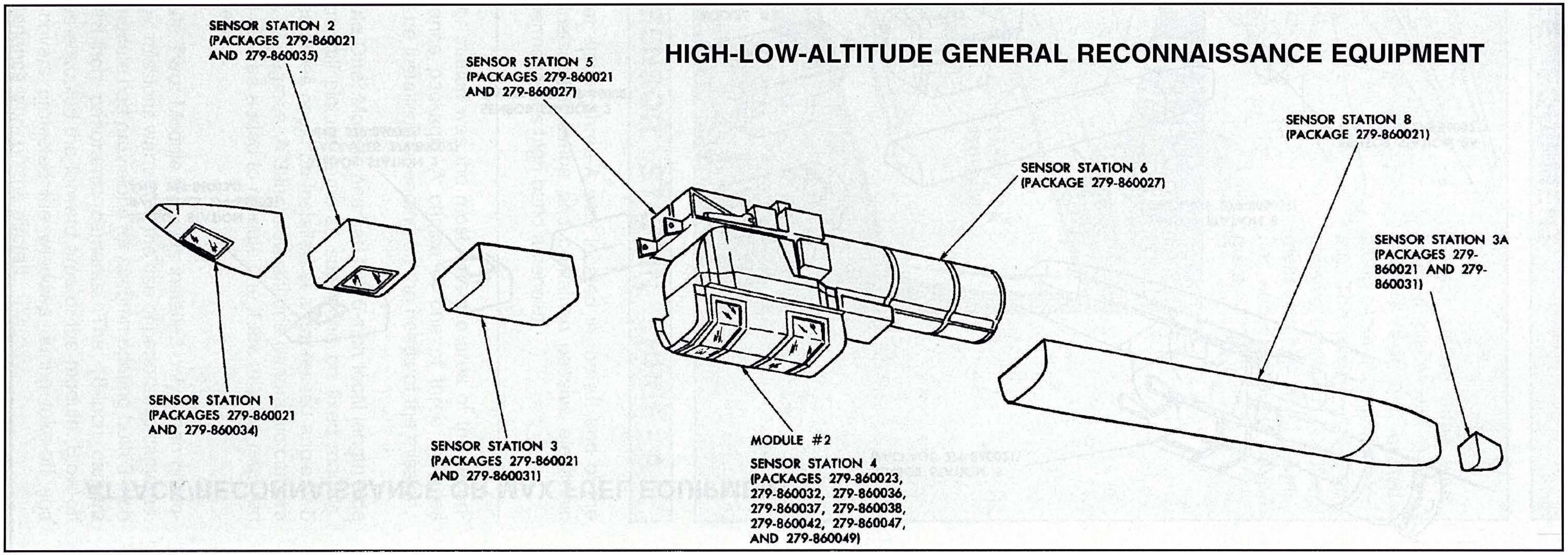
LOW-ALTITUDE OR BEACH RECONNAISSANCE EQUIPMENT

SENSOR STATION 2
(PACKAGES 279-860021
AND 279-860035)
SENSOR STATION 5
(PACKAGES 279-860021
AND 279-860027)
SENSOR STATION 8
(PACKAGE 279-860021)
SENSOR STATION 6
(PACKAGE 279-
860027)
SENSOR STATION 3A
(PACKAGES 279-
860021 AND 279-
860031)
SENSOR STATION 1
(PACKAGES 279-860021
AND 279-860034)
SENSOR STATION
3 (PACKAGES 279-
860021 AND 279-
860031)
MODULE #1
SENSOR STATION 4
(PACKAGES 279-860022,
279-860032, 279-860037,
279-860038, 279-860042,
279-860043, 279-860045,
AND 279-860047)

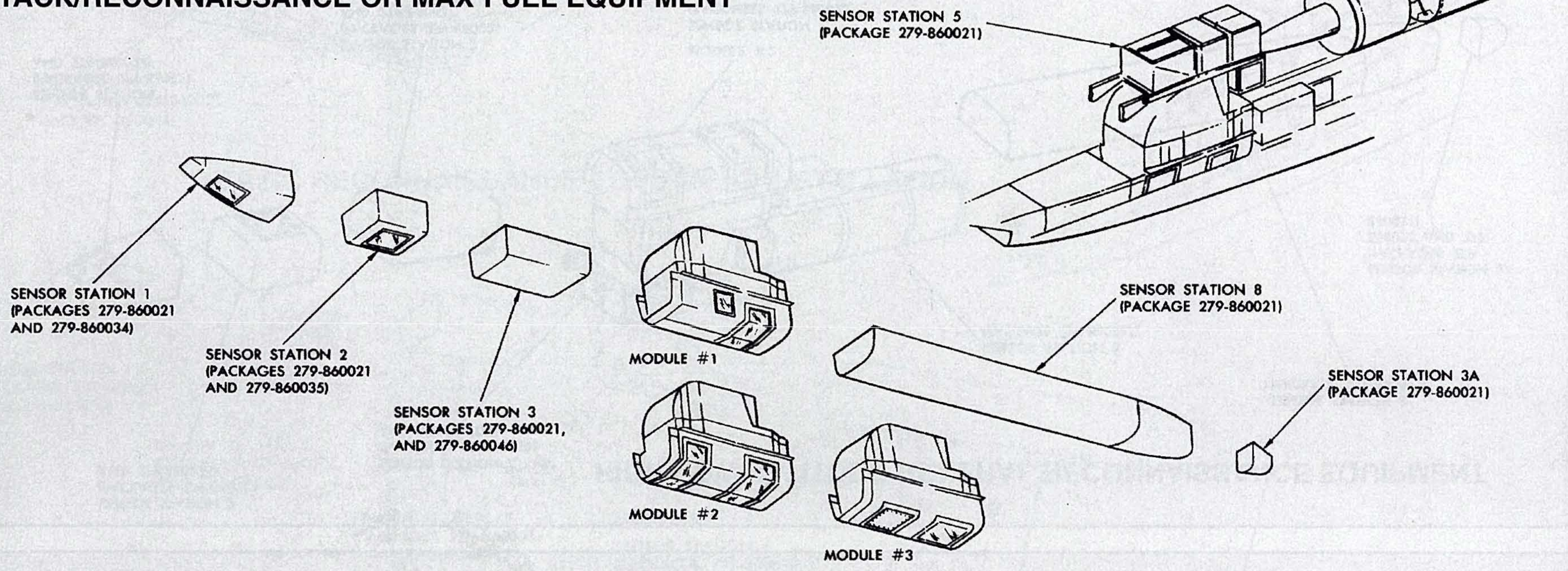
LOW-ALTITUDE NIGHT RECONNAISSANCE EQUIPMENT


SENSOR STATION 9 (PACKAGE 279-860030)
SENSOR STATION 5 (PACKAGES 279-860021 AND 279-860027)
SENSOR STATION 6 (PACKAGE 279-860027)
SENSOR STATION 8 (PACKAGE 279-860021)
SENSOR STATION 3A (PACKAGES 279-860021 AND 279-860031)
SENSOR STATION 1 (PACKAGE 279-860021)
SENSOR STATION 2 (PACKAGE 279-860021)
SENSOR STATION 3 (PACKAGES 279-860021 AND 279-860031)
MODULE #3
SENSOR STATION 4 (PACKAGES 279-860024, 279-860032, 279-860042, 279-860043, AND 279-860045)

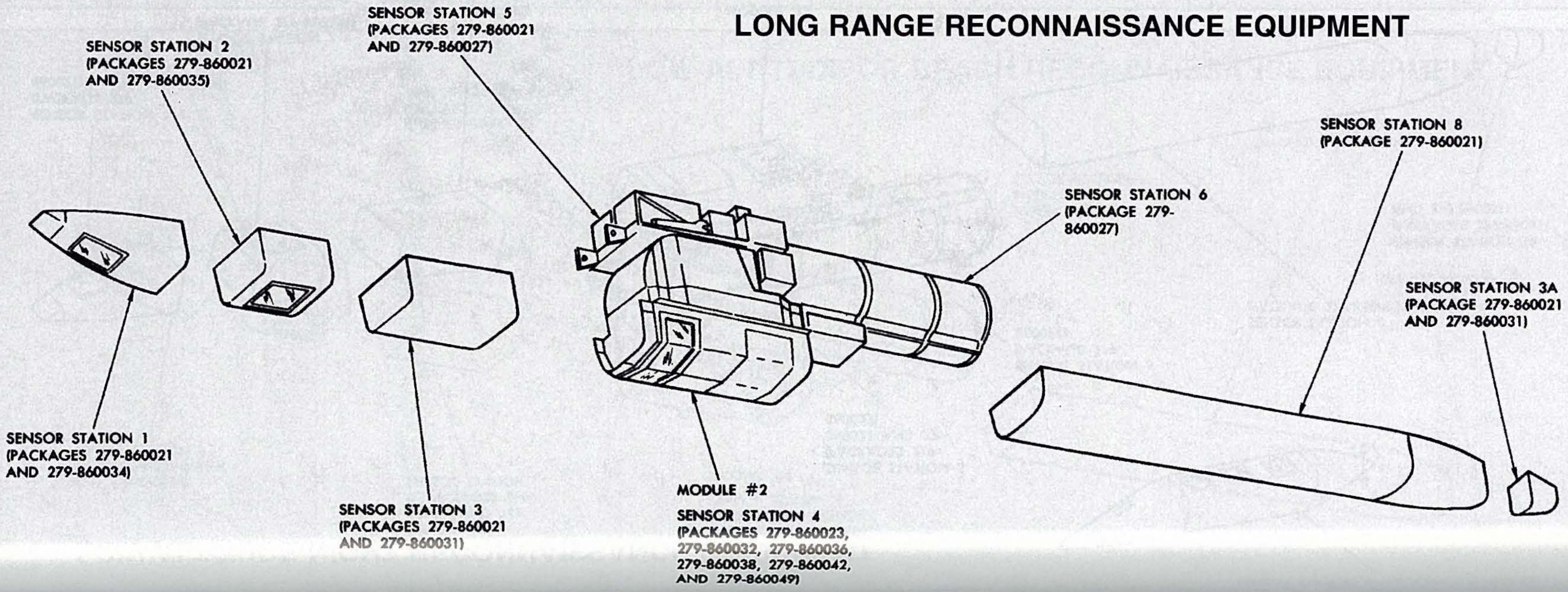
HIGH-LOW-ALTITUDE GENERAL RECONNAISSANCE EQUIPMENT


SENSOR STATION 2 (PACKAGES 279-860021 AND 279-860035)
SENSOR STATION 5 (PACKAGES 279-860021 AND 279-860027)
SENSOR STATION 8 (PACKAGE 279-860021)
SENSOR STATION 6 (PACKAGE 279-860027)
SENSOR STATION 3A (PACKAGES 279-860021 AND 279-860031)
SENSOR STATION 1 (PACKAGES 279-860021 AND 279-860034)
SENSOR STATION 3 (PACKAGES 279-860021 AND 279-860031)
MODULE #2
SENSOR STATION 4 (PACKAGES 279-860023, 279-860032, 279-860036, 279-860037, 279-860038, 279-860042, 279-860047, AND 279-860049)

ATTACK/RECONNAISSANCE OR MAX FUEL EQUIPMENT

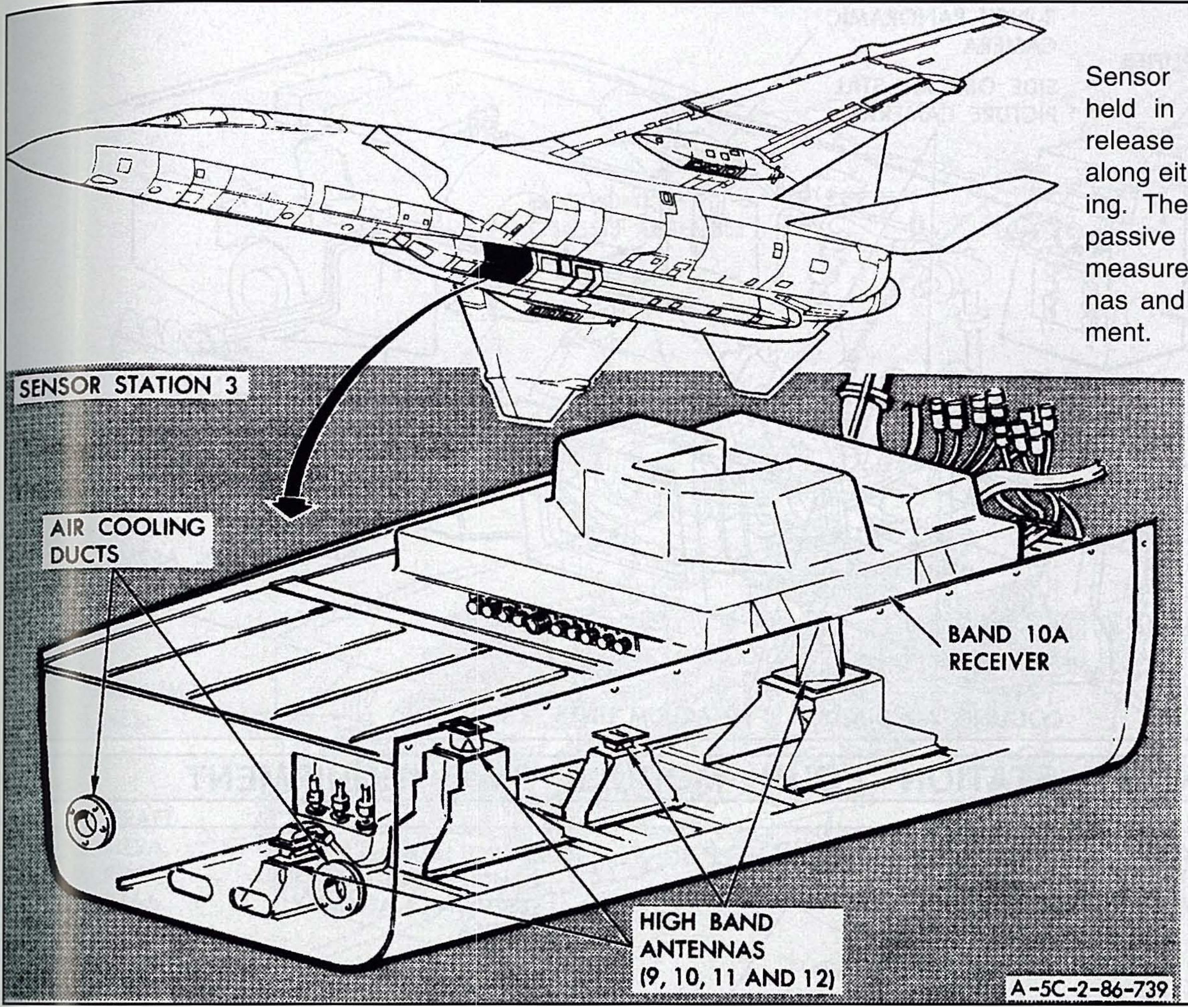

SENSOR STATION 5
(PACKAGE 279-860021)
SENSOR STATION 1
(PACKAGES 279-860021
AND 279-860034)
SENSOR STATION 2
(PACKAGES 279-860021
AND 279-860035)
SENSOR STATION 3
(PACKAGES 279-860021,
AND 279-860046)
MODULE #1
MODULE #2
MODULE #3
SENSOR STATION 8
(PACKAGE 279-860021)
SENSOR STATION 3A
(PACKAGE 279-860021)

LONG RANGE RECONNAISSANCE EQUIPMENT


SENSOR STATION 2
(PACKAGES 279-860021
AND 279-860035)
SENSOR STATION 5
(PACKAGES 279-860021
AND 279-860027)
SENSOR STATION 8
(PACKAGE 279-860021)
SENSOR STATION 6
(PACKAGE 279-
860027)
SENSOR STATION 3A
(PACKAGE 279-860021
AND 279-860031)
SENSOR STATION 1
(PACKAGES 279-860021
AND 279-860034)
SENSOR STATION 3
(PACKAGES 279-860021
AND 279-860031)
MODULE #2
SENSOR STATION 4
(PACKAGES 279-860023,
279-860032, 279-860036,
279-860038, 279-860042,
AND 279-860049)

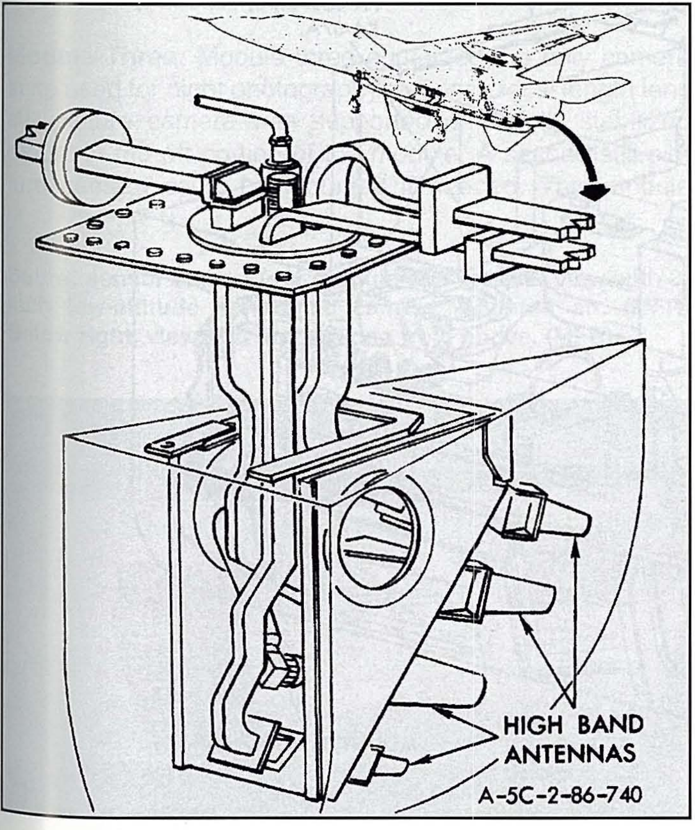
SENSOR STATION THREE EQUIPMENT

Sensor station three was held in place with quick-release fasteners located along either side of the fairing. The station contained passive electronic countermeasures high band antennas and associated equipment.



SENSOR STATION THREE - A

Sensor station three-A was located in the aft end of the reconnaissance canoe and contained passive electronic countermeasures high band antennas.

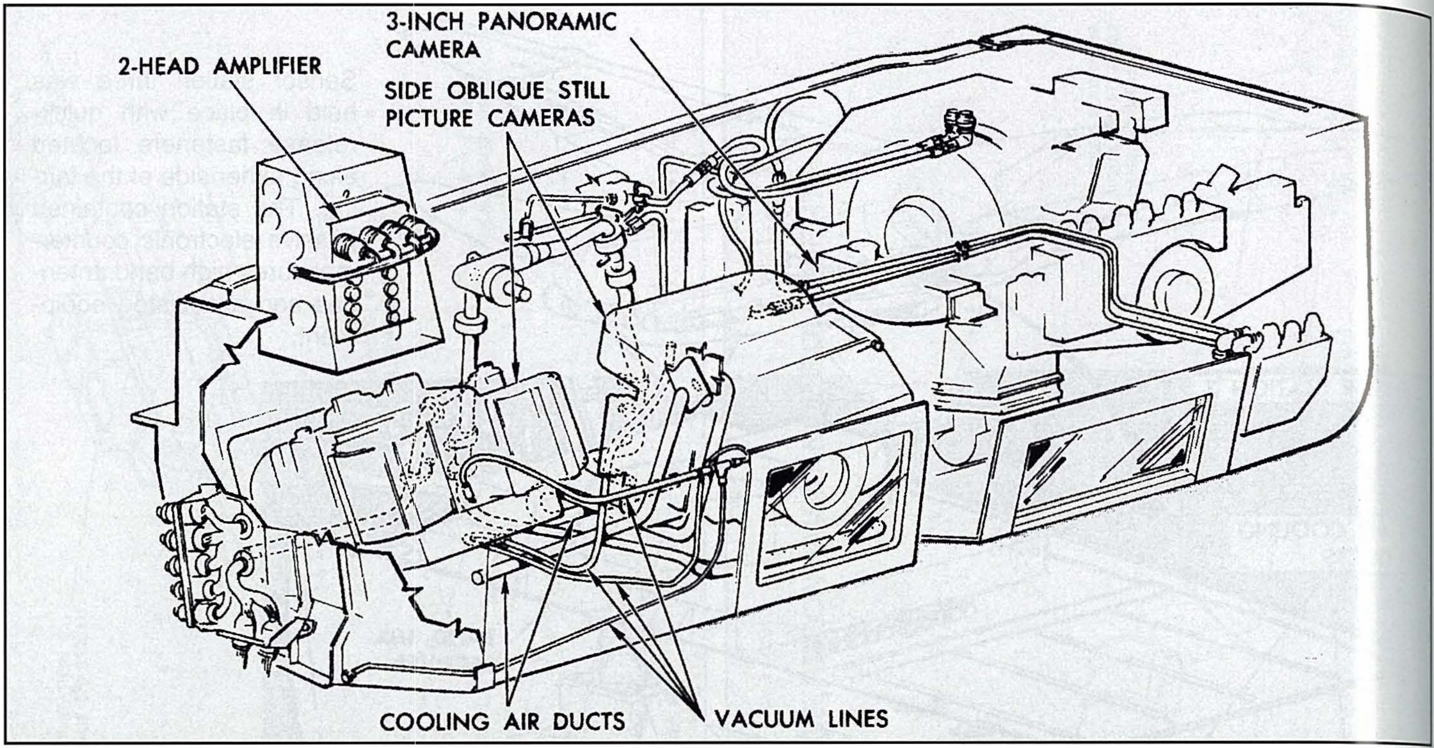


Sensor station was the most versatile area of the reconnaissance package. A choice of one of three modules could be installed depending on the needs of the mission.

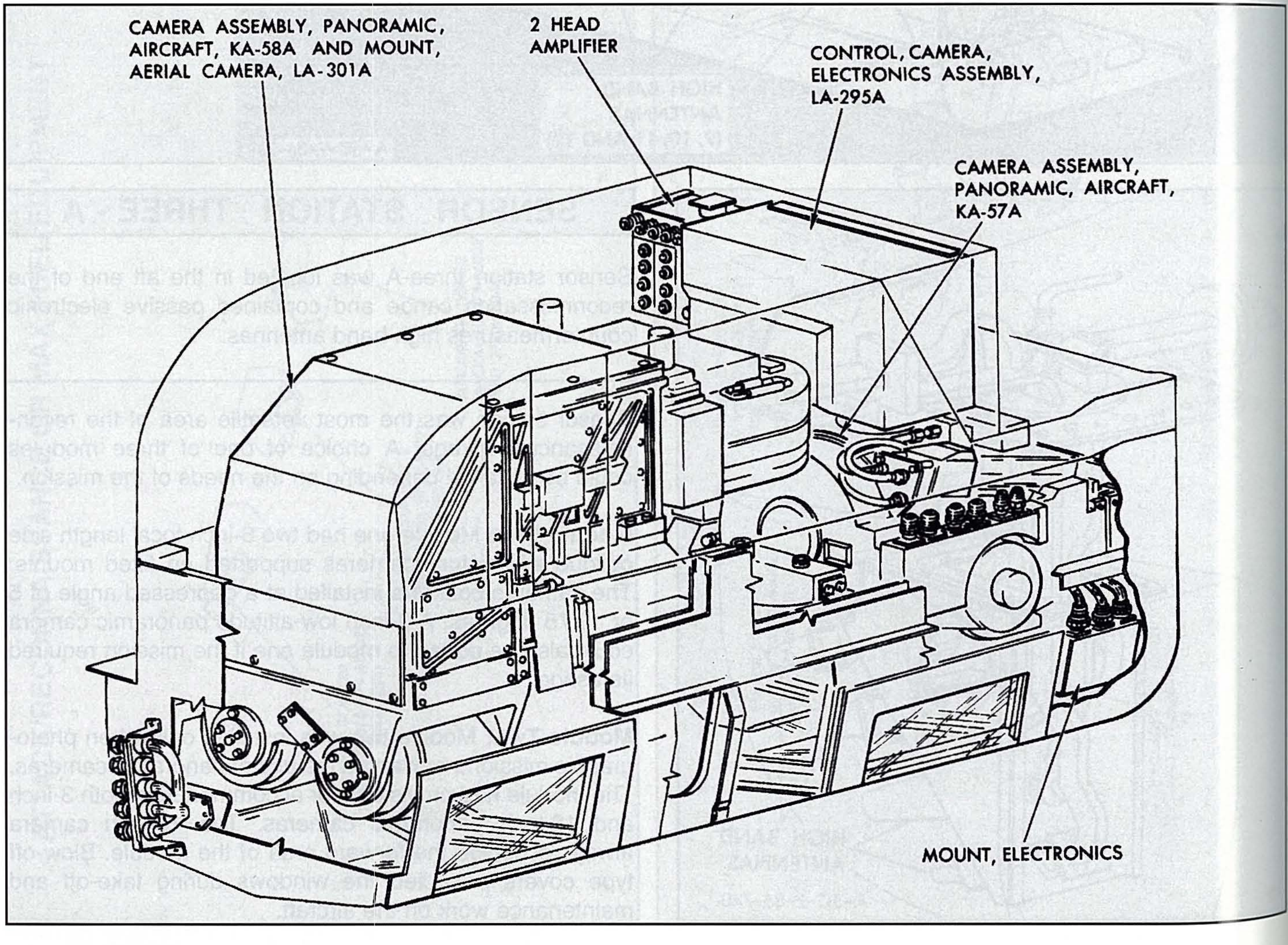
Module One: Module one had two 6-inch focal length side oblique still picture cameras supported on fixed mounts. The cameras could be installed at a depressed angle of 5 or 19.75 degrees. A 3-inch low-altitude panoramic camera could also be added to module one if the mission required its usage.

Module Two: Module two was installed only when photographic missions warranted the use of panoramic cameras. The module had provisions for accommodating both 3-inch and 18-inch panoramic cameras. The 18-inch camera always occupied the forward area of the module. Blow-off type covers protected the windows during take-off and maintenance work on the aircraft.

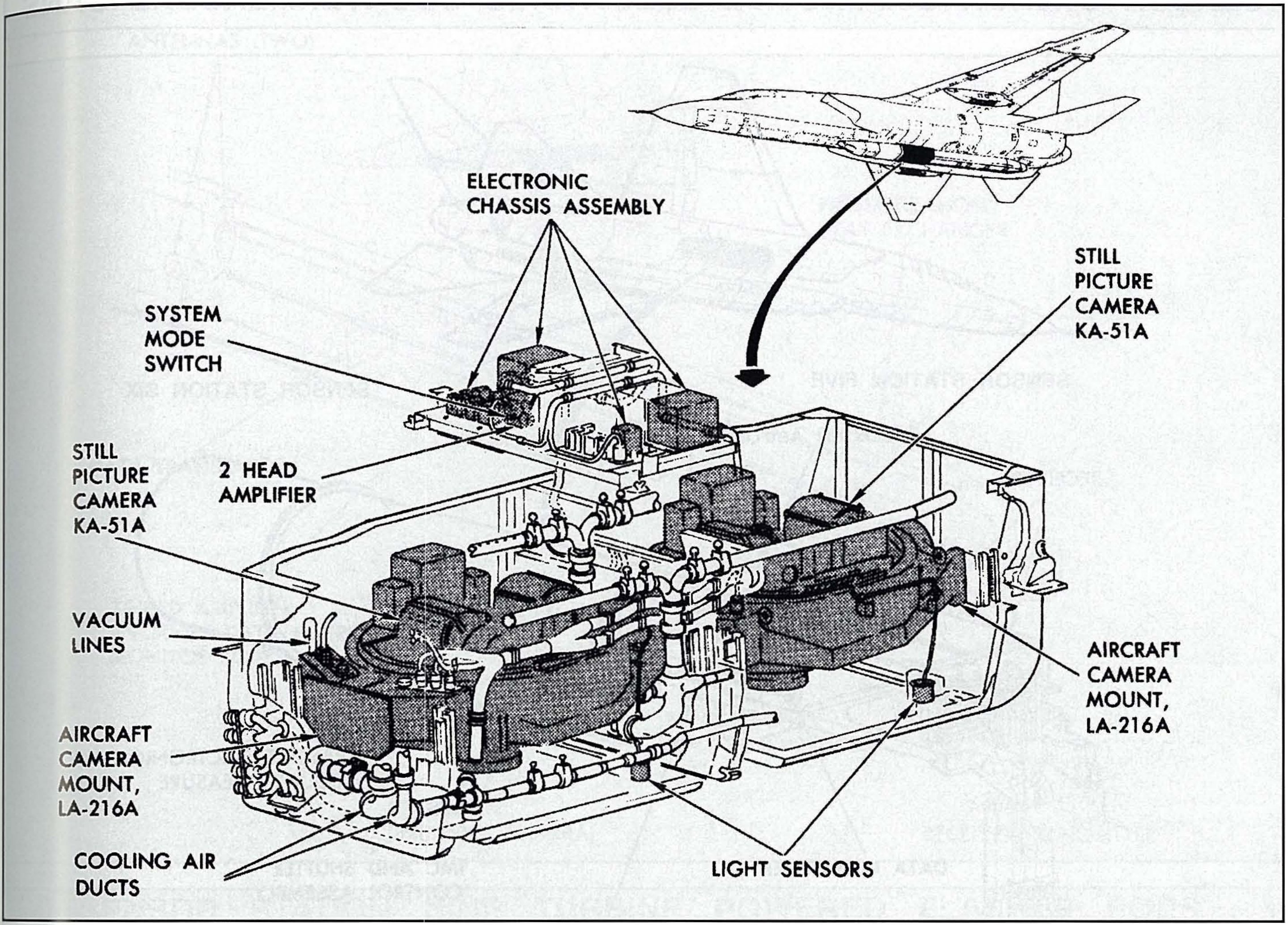
SENSOR STATION FOUR MODULE ONE EQUIPMENT


2-HEAD AMPLIFIER
3-INCH PANORAMIC CAMERA
SIDE OBLIQUE STILL PICTURE CAMERAS
COOLING AIR DUCTS
VACUUM LINES

SENSOR STATION FOUR MODULE TWO EQUIPMENT


CAMERA ASSEMBLY, PANORAMIC, AIRCRAFT, KA-58A AND MOUNT, AERIAL CAMERA, LA-301A
2 HEAD AMPLIFIER
CONTROL, CAMERA, ELECTRONICS ASSEMBLY, LA-295A
CAMERA ASSEMBLY, PANORAMIC, AIRCRAFT, KA-57A
MOUNT, ELECTRONICS

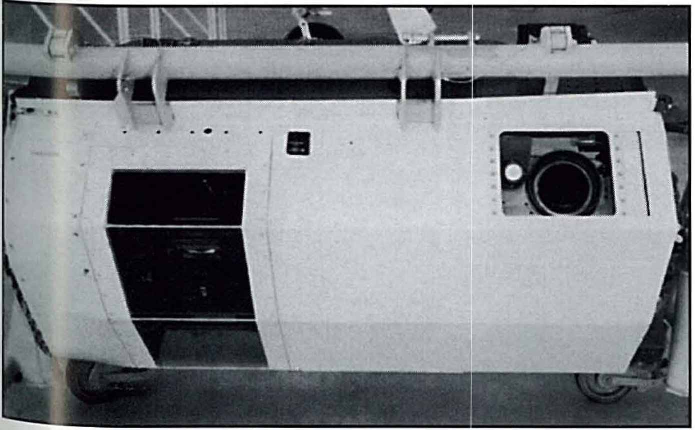
SENSOR STATION FOUR MODULE THREE EQUIPMENT

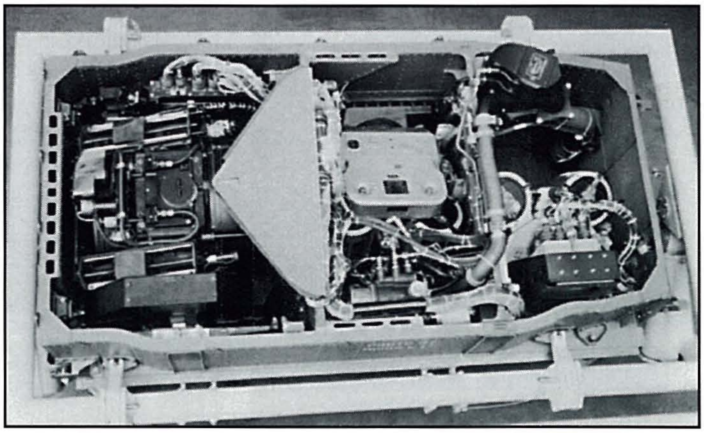

ELECTRONIC CHASSIS ASSEMBLY
STILL PICTURE CAMERA KA-51A
SYSTEM MODE SWITCH
STILL PICTURE CAMERA KA-51A
2 HEAD AMPLIFIER
VACUUM LINES
AIRCRAFT CAMERA MOUNT, LA-216A
AIRCRAFT CAMERA MOUNT, LA-216A
COOLING AIR DUCTS
LIGHT SENSORS

Module Three: Module three contained the only camera suite used for night photography. A 6-inch focal length lens still picture camera was supported on a fully stabilized mount in the aft portion of the module. A second still picture camera could be mounted if needed. This module could also be used for daylight operations. A switch located on a shelf within the module was manually set before take-off for either day or night operations. As with modules one and two, module three was equipped with blow-off type protective window covers.

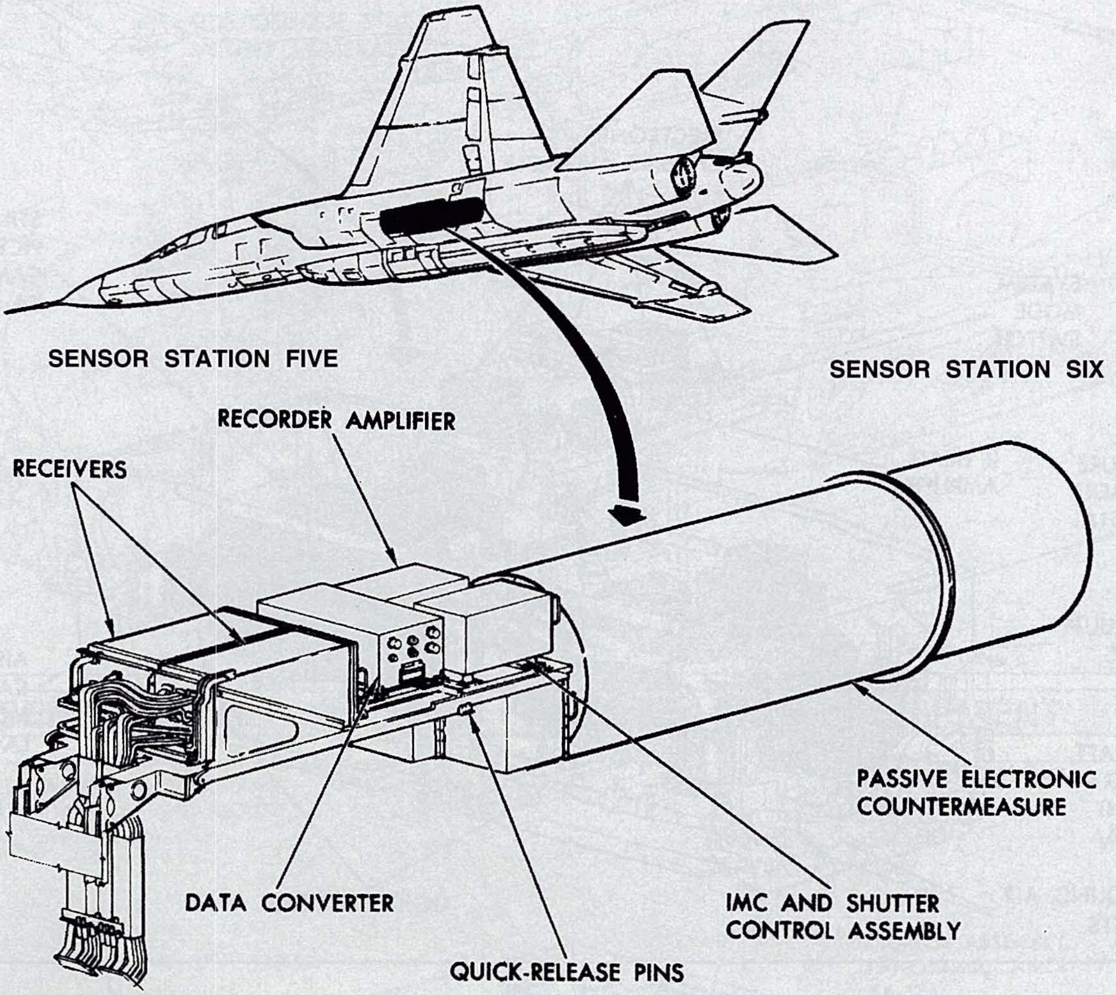
A module hoist installation was permanently installed above sensor station four and provided a means of installing and removing the camera module by a single point hoist attachment.

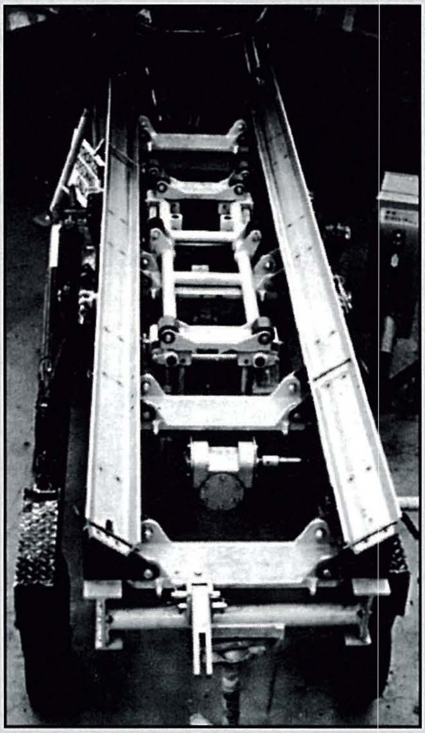
Below, sensor station four module one exterior view with 3-inch low-altitude panoramic camera mounted aft. (MFR) Below right, view into module one from above. (MFR)





SENSOR STATION FIVE ELECTRONIC EQUIPMENT SHELF AND SENSOR STATION SIX PASSIVE ELECTRONIC COUNTERMEASURE CANS

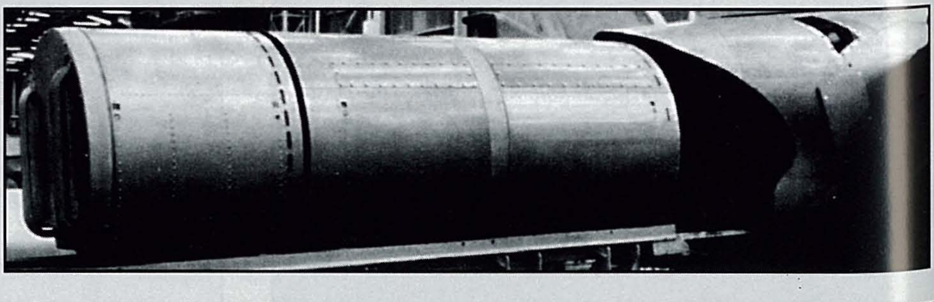

SENSOR STATION FIVE
SENSOR STATION SIX
RECORDER AMPLIFIER
RECEIVERS
PASSIVE ELECTRONIC COUNTERMEASURE
DATA CONVERTER
IMC AND SHUTTER CONTROL ASSEMBLY
QUICK-RELEASE PINS



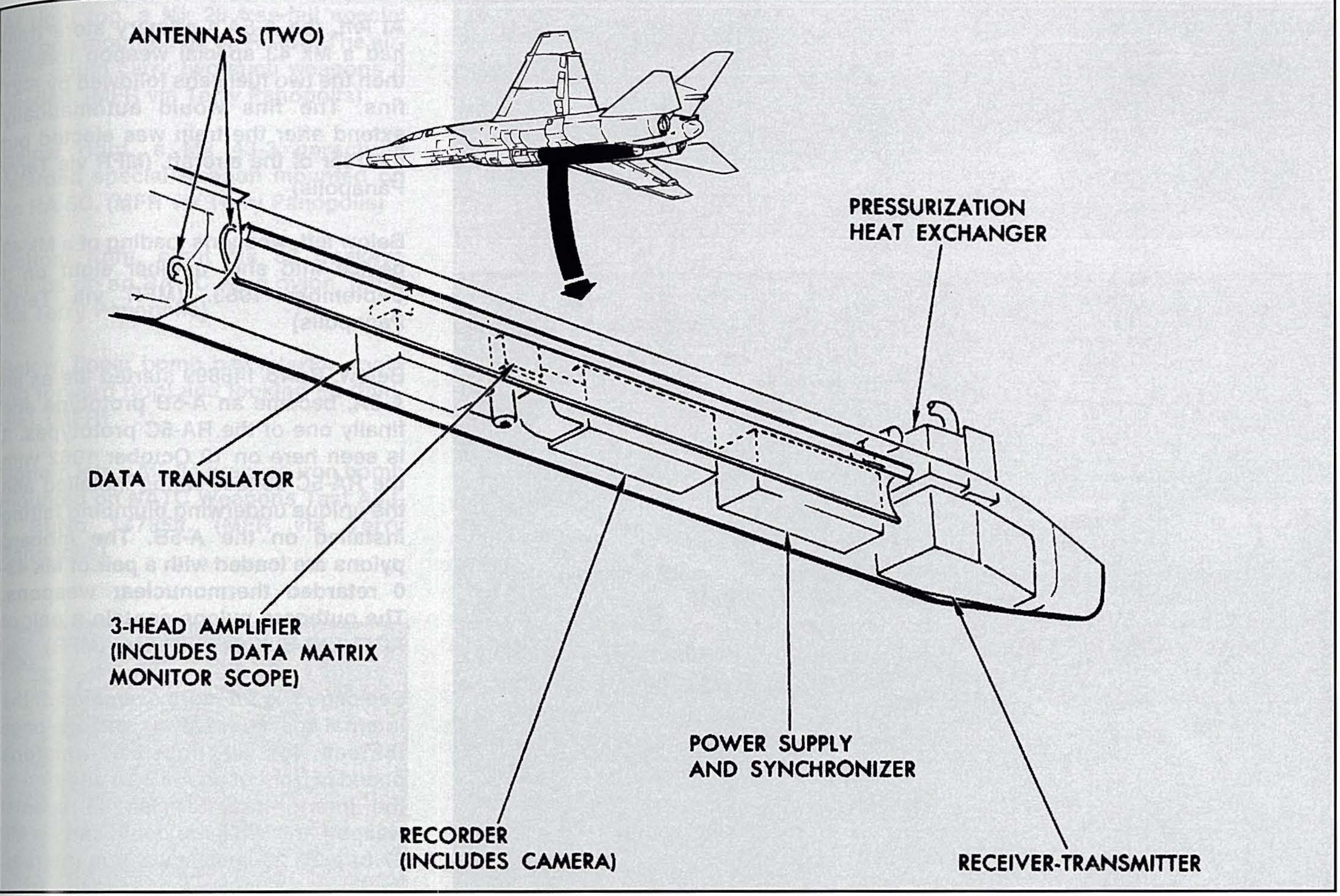
Sensor Station Five: Sensor station five's electronic countermeasures shelf typically housed the passive electronic countermeasures receivers, a recorder amplifier, the data converter and the still picture camera control assembly.

Sensor Station Six: Sensor station six passive electronic countermeasures mounting cans were attached to the aft end of sensor station five and was followed by the linear bomb bay fuel cans.

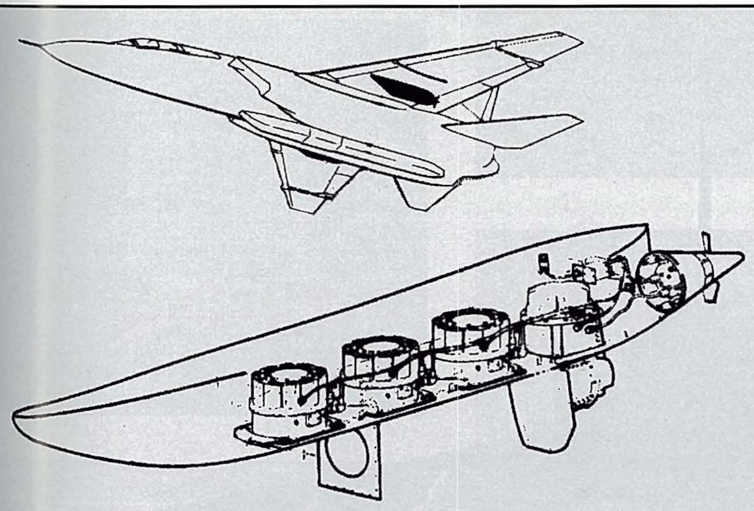
At left, transport loading dolly used to install/remove the sensor station six passive electronic countermeasure cans and fuel cans or special weapon and fuel can combination. (MFR) Below, AN/ALQ-61 passive electronic countermeasures cans about to be loaded into station six. (MFR)



SENSOR STATION EIGHT SIDE - LOOKING RADAR EQUIPMENT


ANTENNAS (TWO)
PRESSURIZATION HEAT EXCHANGER
DATA TRANSLATOR
3-HEAD AMPLIFIER (INCLUDES DATA MATRIX MONITOR SCOPE)
POWER SUPPLY AND SYNCHRONIZER
RECORDER (INCLUDES CAMERA)
RECEIVER-TRANSMITTER

SENSOR STATION NINE TURBINE POWERED FLASHER PODS



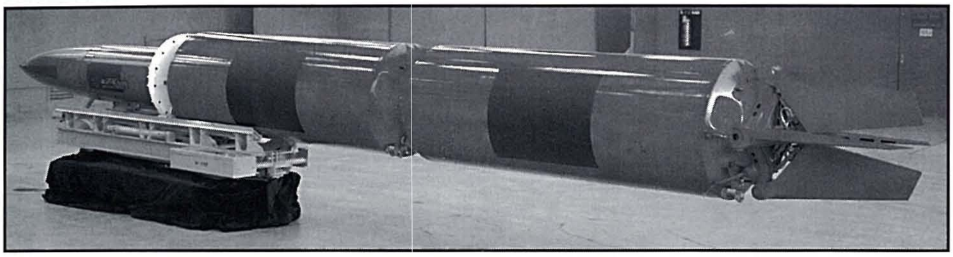
ELECTRONIC FLASHER POD

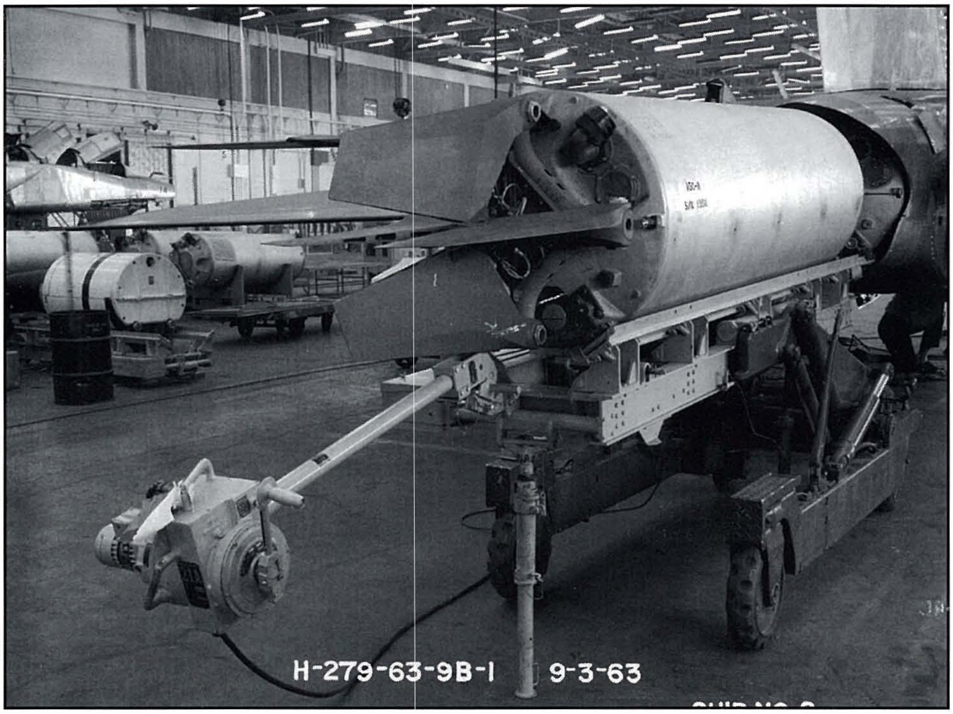
Sensor Station Nine: These were wing-mounted detachable pods, that housed all the flasher equipment for night photography. The unit had three reflector heads and was powered by a RAM air generator. The pods and equipment were used in conjunction with module three. In an emergency, the pods could be jettisoned by the photo-navigator.

Sensor Station Seven: Although not a dedicated station, additional sensor space was available in the forward portion of sensor station eight between the SLR antennas.

Sensor Station Eight: This station housed the Side Looking Radar (SLR) equipment which included two antennas running the full length of the compartment, hydraulic equipment for operating the antennas, a recorder including camera and film cassette, a power supply, pressurization heat exchanger, and the electronic modules of the SLR. Other equipment consists of the data translator, and a three-head amplifier and data matrix monitor. All the equipment except the heat exchanger was housed within a long fairing attached and hinged to the underside of the fuselage. The heat exchanger unit was located in the lower portion of the aft fuselage. A cable arrangement and a mechanical drive was used when opening and closing the fairing.

WEAPON OPTIONS



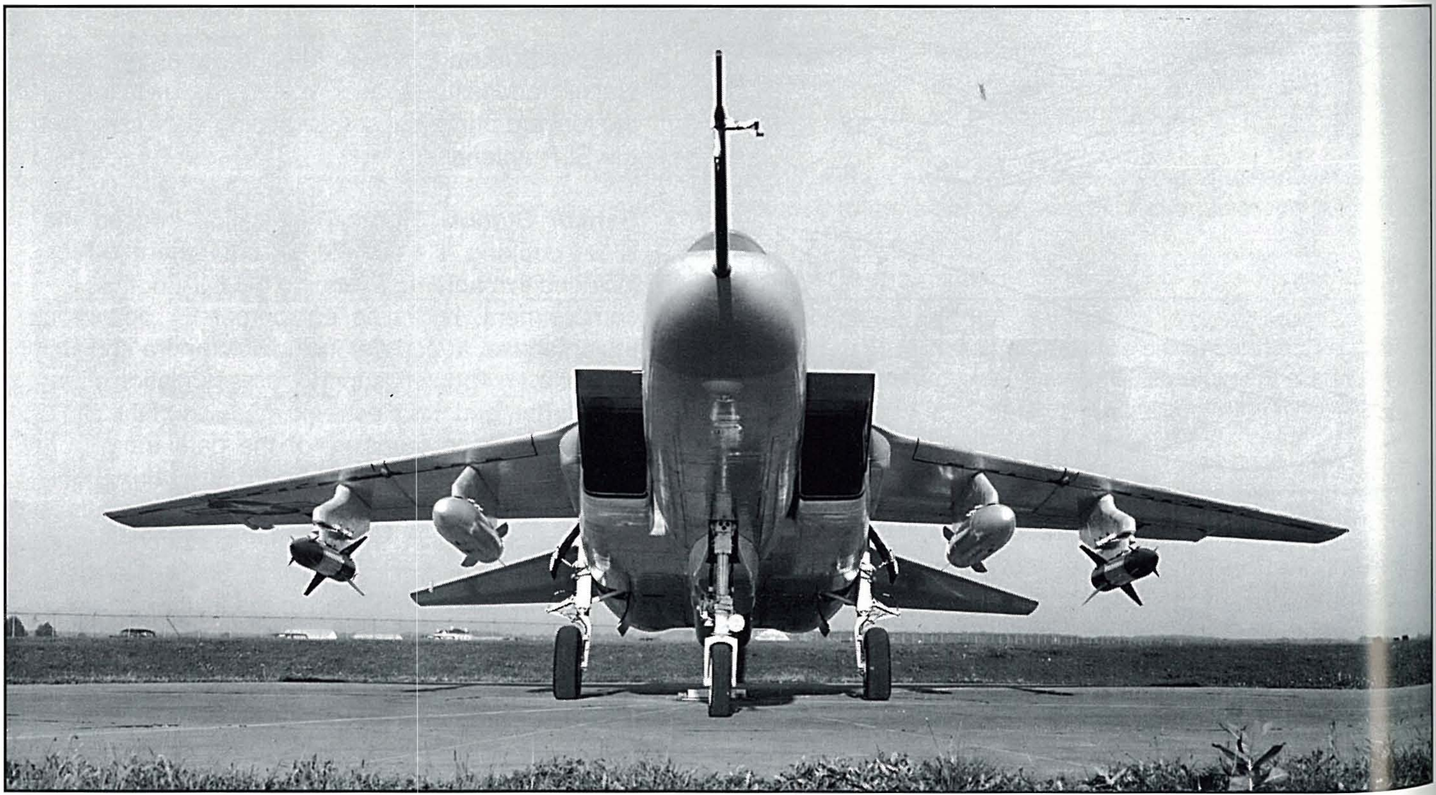


At left, the A-5A's primary store train had a Mk 43 special weapon forward then the two fuel cans followed by F-21 fins. The fins would automatically extend after the train was ejected out the rear of the aircraft. (MFR via Terry Panapolis)

Below left, weapons loading of a Mk 43 device into ship number eight on 3 September 1963. (MFR via Terry Panapolis)

Below, BuNo 146699 started life as an A-5A, became an A-5B prototype and finally one of the RA-5C prototypes. It is seen here on 10 October 1962 with the RA-5C sensor canoe installed and the unique underwing plumbing fairing installed on the A-5B. The inboard pylons are loaded with a pair of Mk 43-0 retarded thermonuclear weapons. The outboard pylons contain a pair of AGM-12B Bullpup missiles. (MFR)

See page two for more examples of the internal special weapons and see page thirteen for all possible weapons posed in front of an A-5B. In addition to the interior-mounted Mk 43 special weapon, the Vigilante could carry a Mk 27 or a Mk 28 special weapon internally.



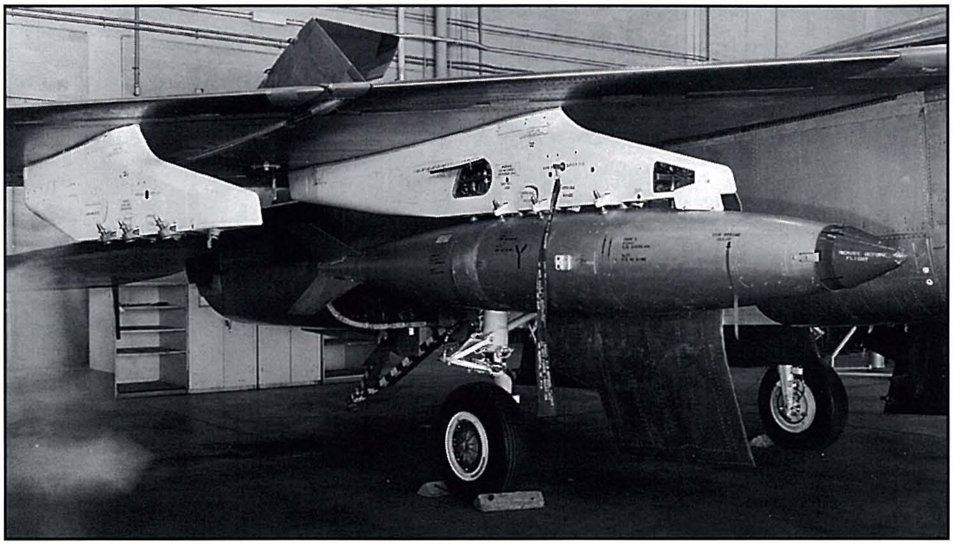
At right top, a Mk 28 free-fall special weapon mounted on an RA-5C. The aircraft could carry two such weapons if needed. (MFR via Terry Panopolis)

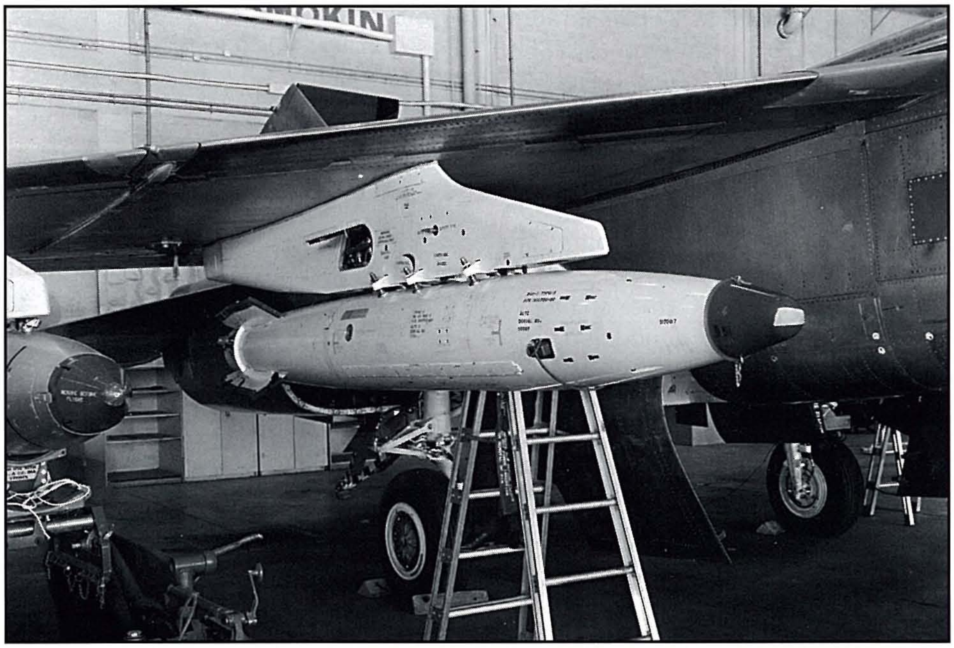
Below right, a Mk 43-3 parachute retarded special weapon mounted on an RA-5C. (MFR via Terry Panopolis)

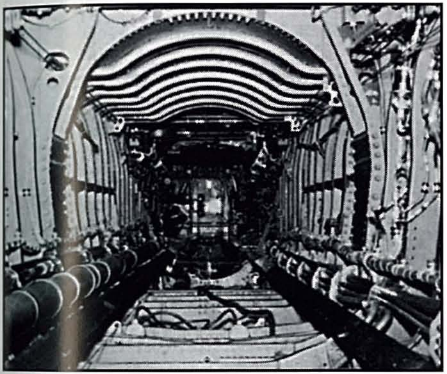
Bottom right, eight Mk 82 Snakeye bombs on an RA-5C wing pylon. (MFR via Terry Panopolis)

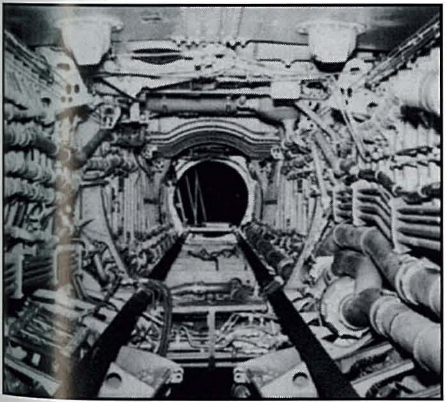
Below, linear bomb bay interior, looking forward (top) and looking aft (middle). (MFR)

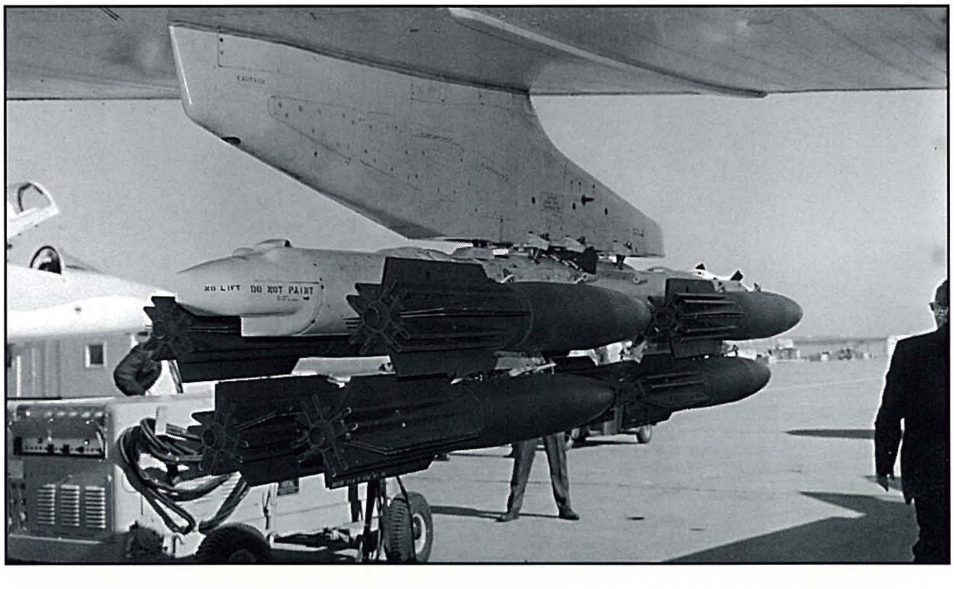
Bottom left, a Mk 84 practice iron bomb mounted on NATC Weapons Test A3J-1 BuNo 147859. (MFR via Terry Panopolis)









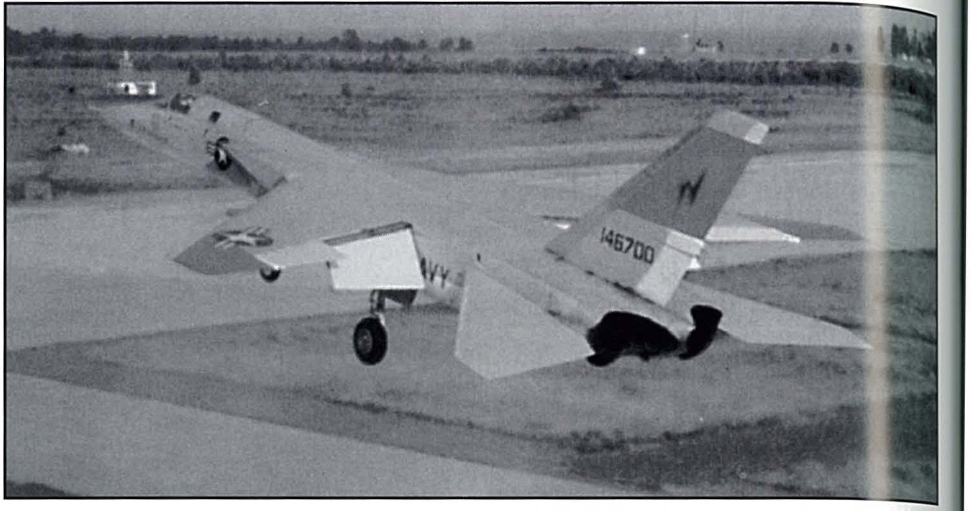


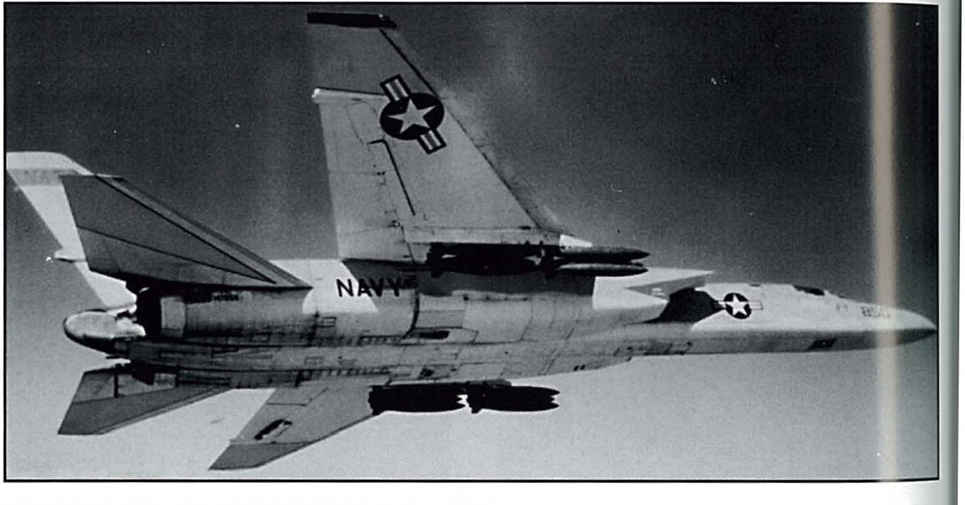
NAVAL AIR TEST CENTER (NATC) PATUXENT RIVER, MD

The A3J-1/A-5A and RA-5C aircraft were extensively tested at NATC Pax River. Aircraft assigned were A3J-1/A-5As BuNos 146694 through 146702, 147850, through 147852, 147858, 147859, and RA-5Cs 150823, 150824, 150838, 156637.

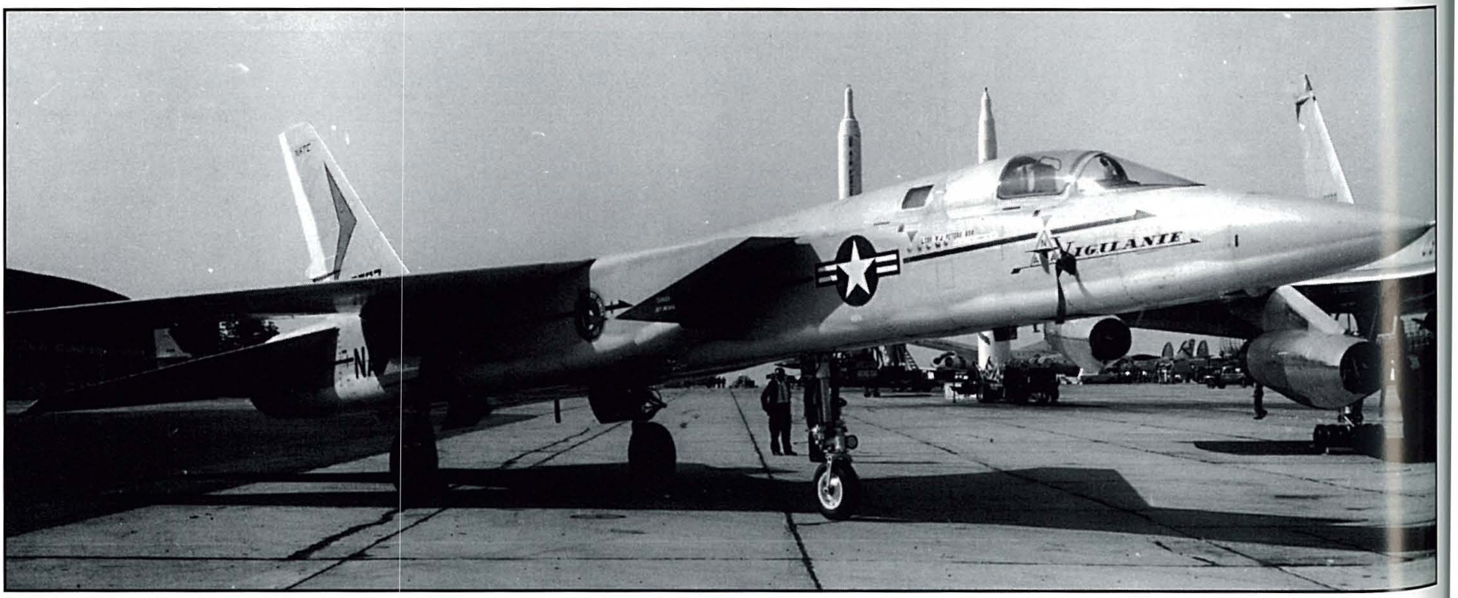
BuNo 146697 was used for carrier suitability tests of the A3J-1/A-5A which were conducted aboard the USS Saratoga (CVA-60) on 22 July 1960 (see page 10). Carrier suitability for the RA-5C was conducted with BuNo 150823 aboard the USS America (CVA-66) on 5 April 1965. An NATC Vigilante, BuNo 147852, became one of the stars of the Paris Air Show in 1961.

Three Vigilantes were lost at NATC. A3J-1 BuNo 147851 was lost along with its pilot MAJ, G. A. Bacas

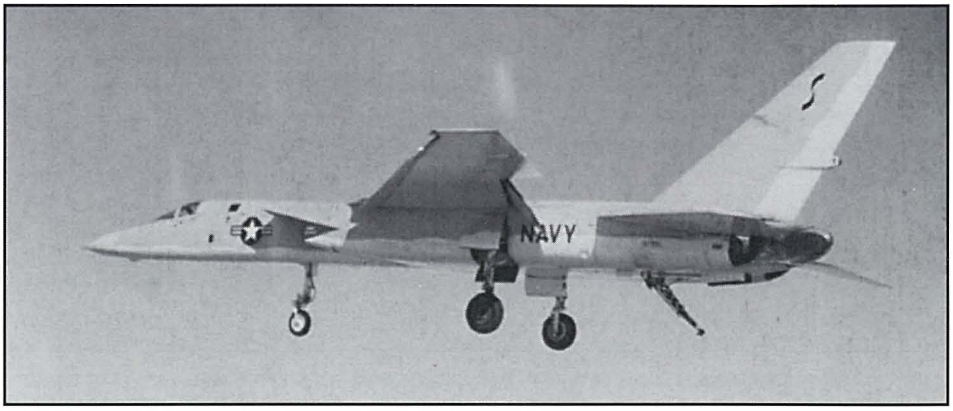




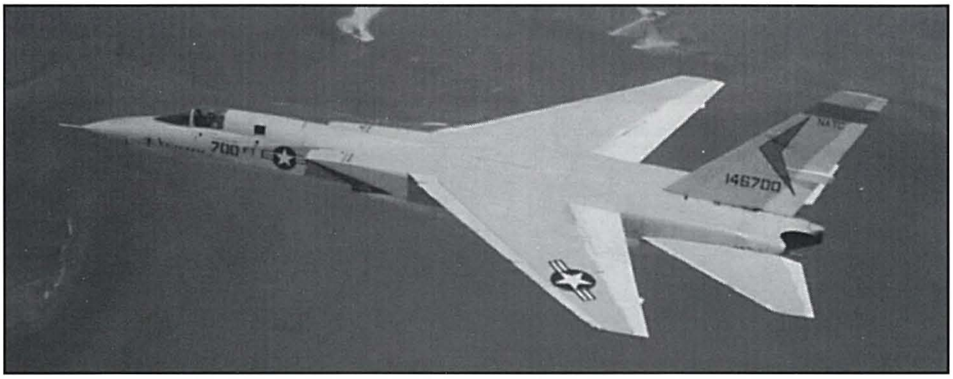
Above, A3J-1 BuNo 146700 landing at NATC in 1961. Aircraft had da-glo tail and wing stripes with Weapons Test "W" on the tail. Aircraft was lost on 17 March 1961. Note full-down flaps which were enlarged even more on the RA-5C. (USN) Below, A-5A BuNo 147850 with six Mk. 82 bombs on 31 May 1963. Aircraft had da-glo wing and horizontal tail markings outlined in black. Vertical tail had a da-glo stripe with NATC on it. (USN) Bottom, A3J-1 146697 was the carrier trials aircraft. (Ginter col.)

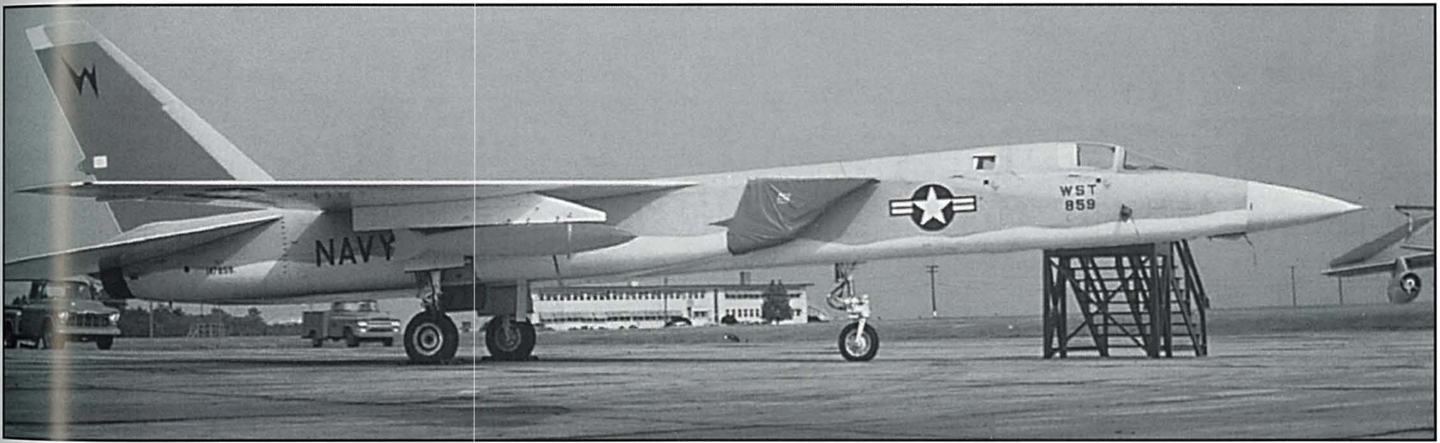


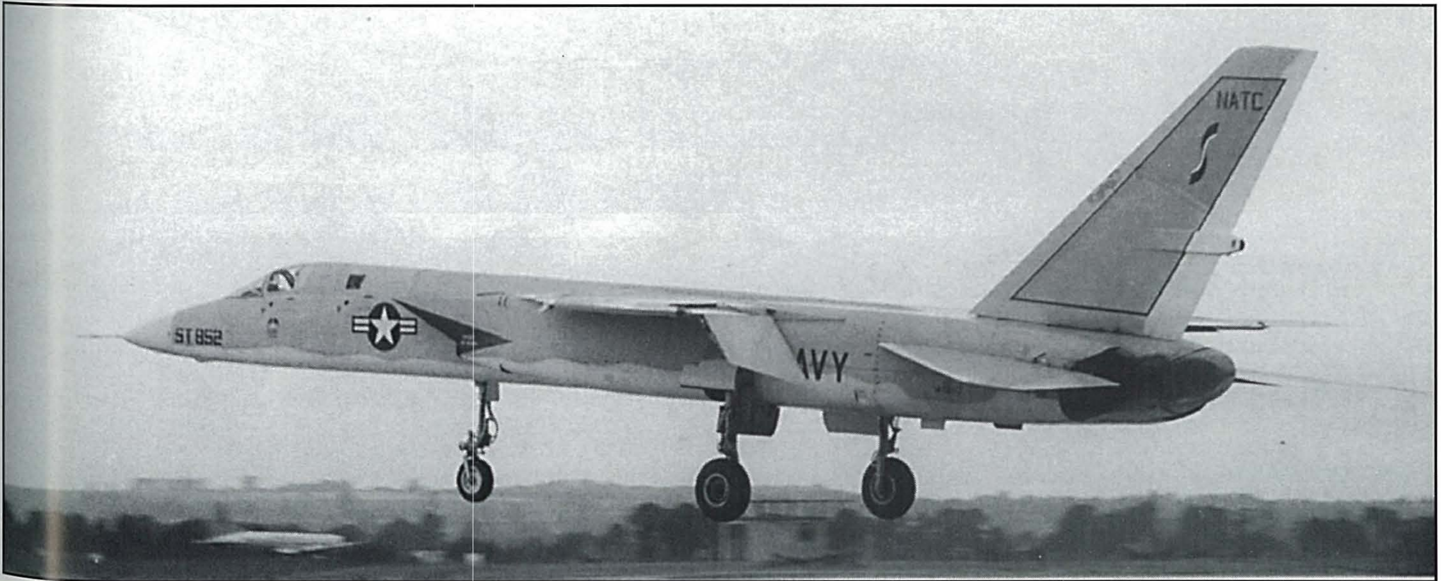
on 11 January 1961. A second A3J-1, BuNo 146700, was lost at NAS Patuxent River, MD, on 17 March 1961 when LCDR Grimes ejected. A third Vigilante was lost at Pax River when LCDR Hauck ejected from RA-5C BuNo 156637 on 23 July 1973.

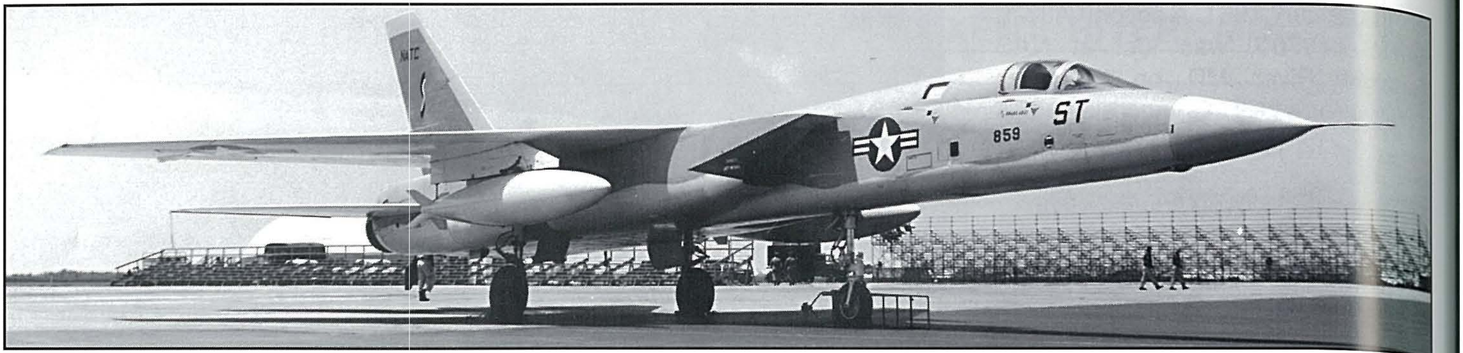


At top, Service Test (ST) A3J-1 BuNo 147851 landing at NATC on 9 January 1961. (USN) At right, BuNo 146700 from Flight Test Division (FT) over the Maryland countryside. (USN) Below, Weapons Test Division (WST on the nose) BuNo 147859 with dummy Mk 84 bomb had a da-glo tail and outer wing panels. Bottom, Service Test BuNo 147852 landing at the Paris Air Show in 1961. Tail markings were da-glo outlined by black with NATC and a stylized "S". (via Burger)





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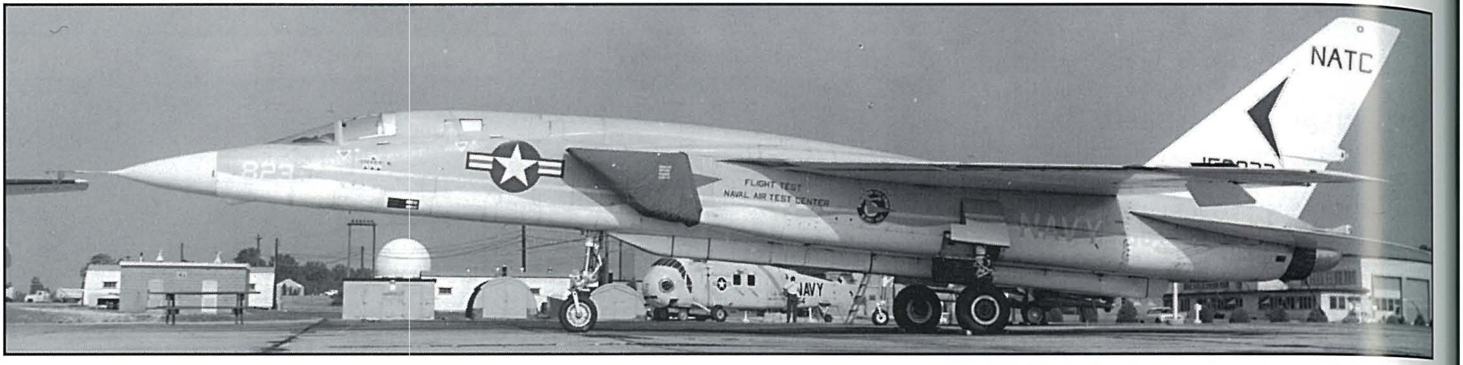
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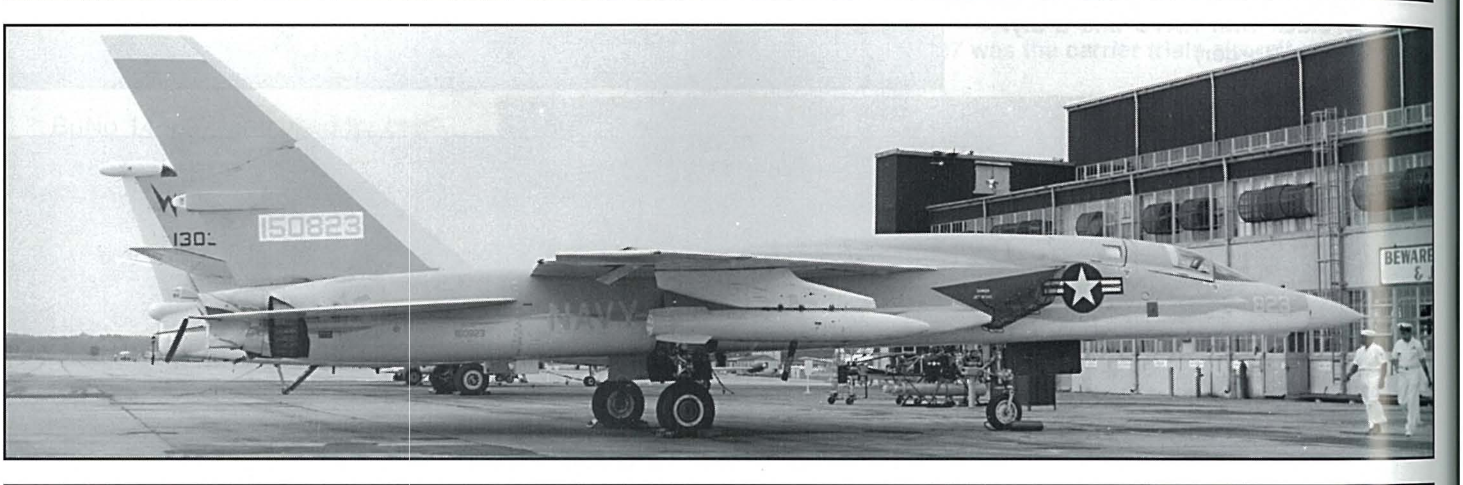
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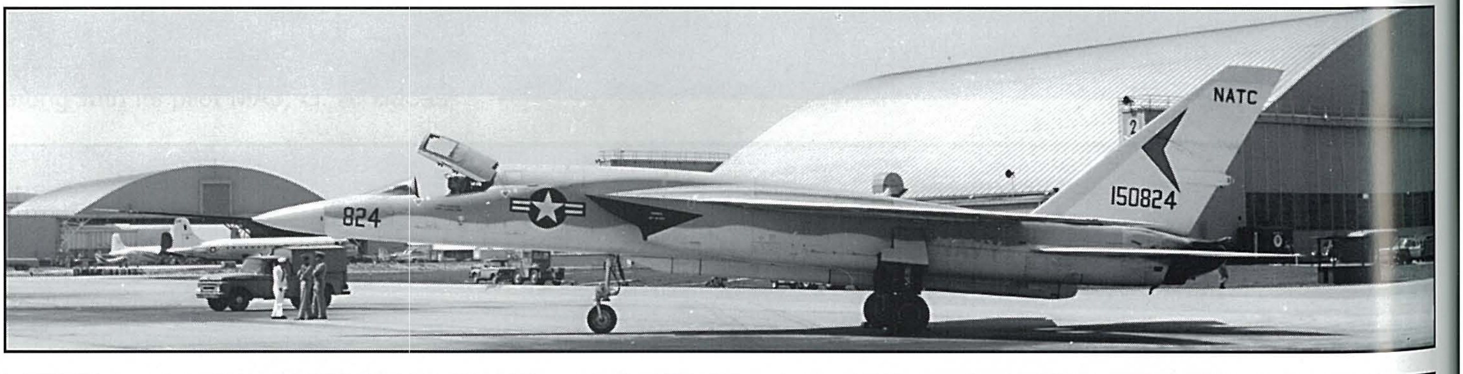
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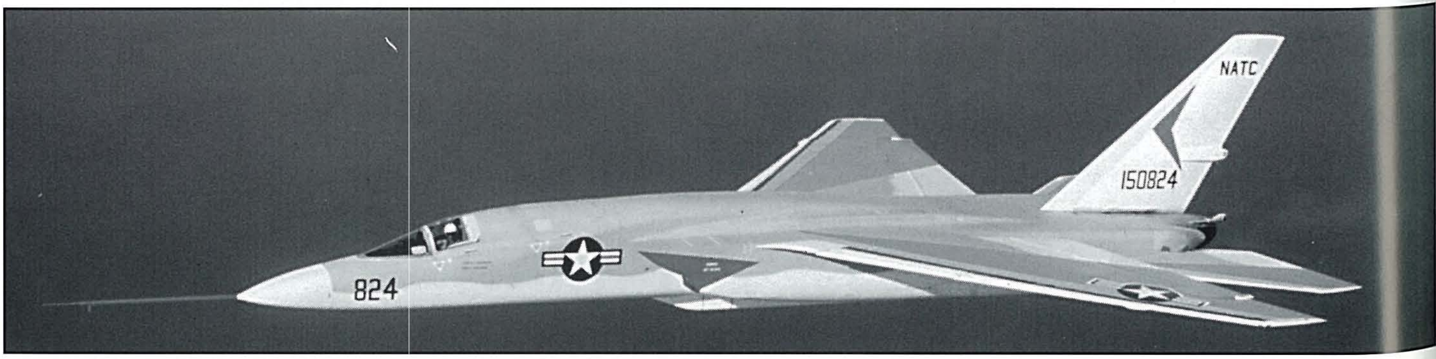
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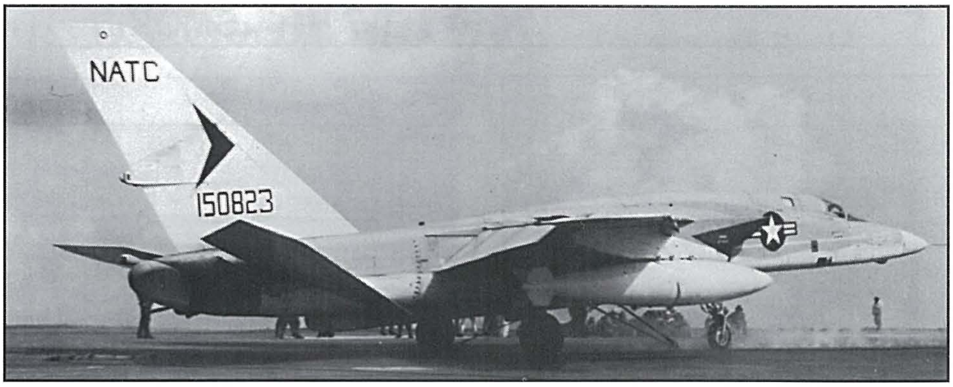
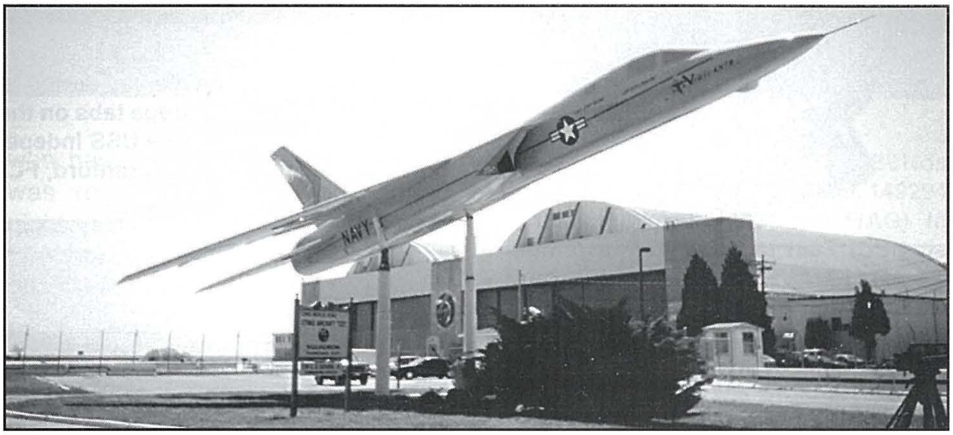
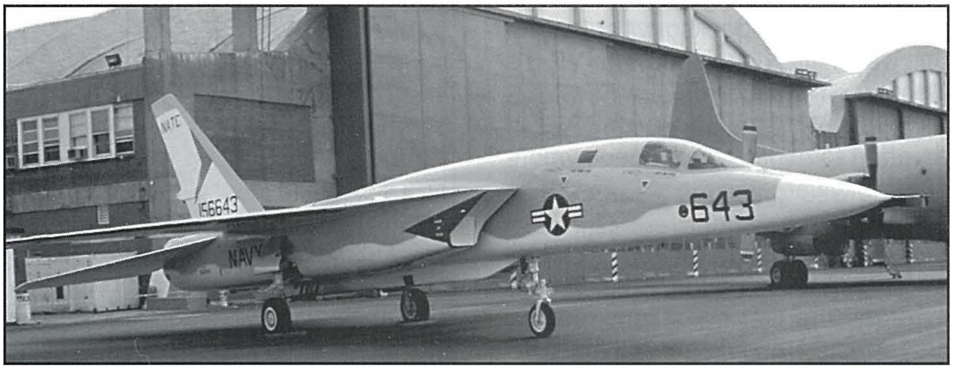
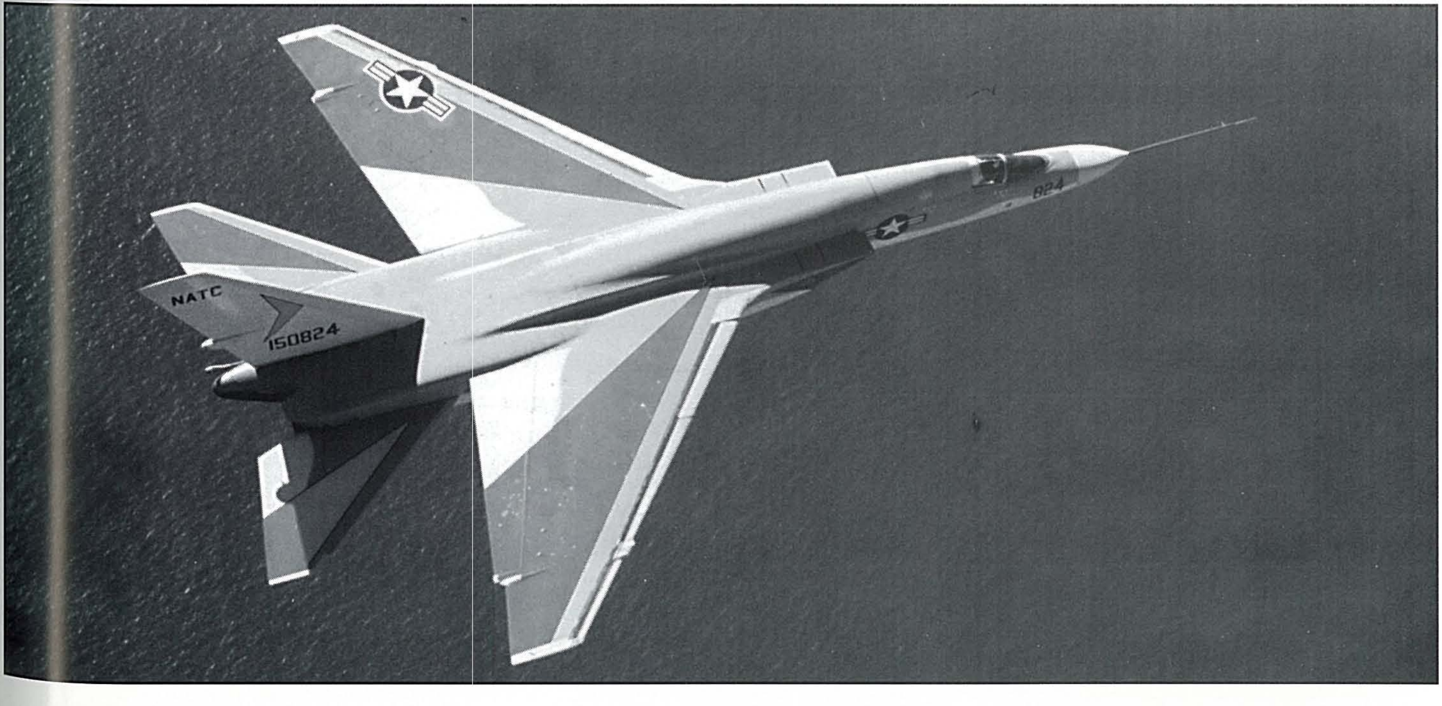
At top left, Service Test Division A3J-1 BuNo 147859 at Andrews AFB on 10 May 1962 with 400 gallon drop tanks. (Tom Cuddy) Below left, RA-5C BuNo 150823 on 6 August 1965 at NATC. On the fuselage side beneath the wing is the Weapons Test Division insignia and the inscription, "Flight Test Naval Air Test Center." Number 823 on the nose, NAVY, and the long thin fuselage stripe were pale blue-grey. (D. Ostrowski via Menard) Below, left, BuNo 150823, date unknown, with daglo tail fin and pale blue-grey BuNo. (D. Ostrowski via Menard) Below left, BuNo 150824 was also assigned to flight test and is seen at Andrews AFB in May 1965. (Roger Besecker) Bottom left, BuNo 150824 over the Atlantic on 17 December 1963. (MFR)

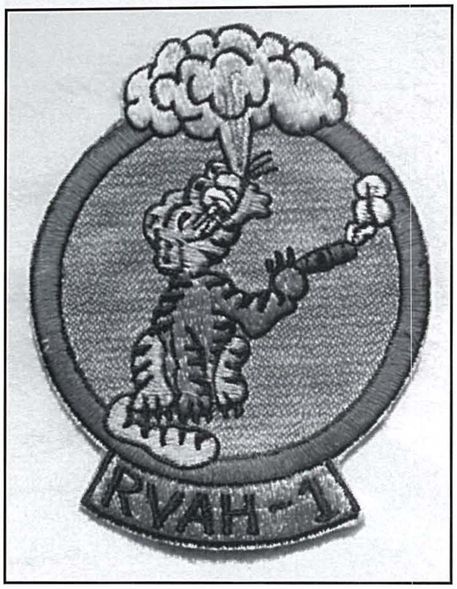
At right top, BuNo 150823 on the deck of the USS America (CVA-66) on 5 April 1965. Boomerang on the tail was black. (USN) At right, the only A-5A still in existence, BuNo 146697, in fresh Flight Test scheme in July 1984 shortly after being mounted in front of the Strike Aircraft Test Division hangar at NATC Patuxent River, MD. (Ginter) At right, the last RA-5C built, BuNo 156643 was flown from RVAH-12 at NAS Key West, FL, to Pax River on 15 June 1979 where it was re-painted in NATC markings and was preserved at the Naval Air Test Center Museum. The Vigilante was seen at an open house on 22 May 1993. (Bill Upton via Kaston) Bottom, Excellent view of BuNo 150824's daglo red-orange wing and tail markings on 17 December 1963. (MFR)

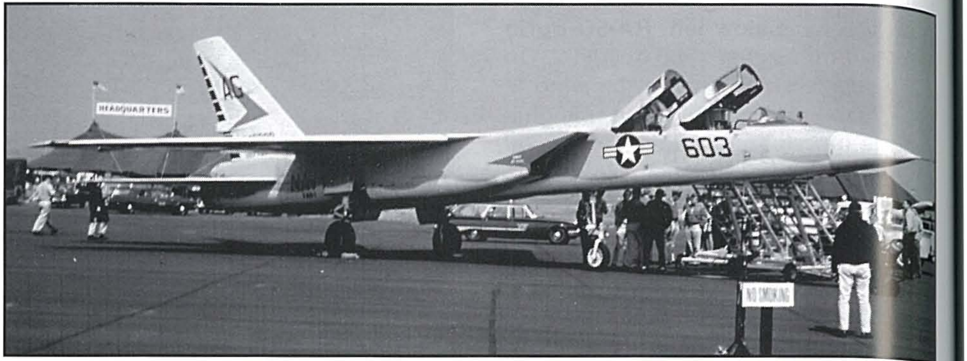




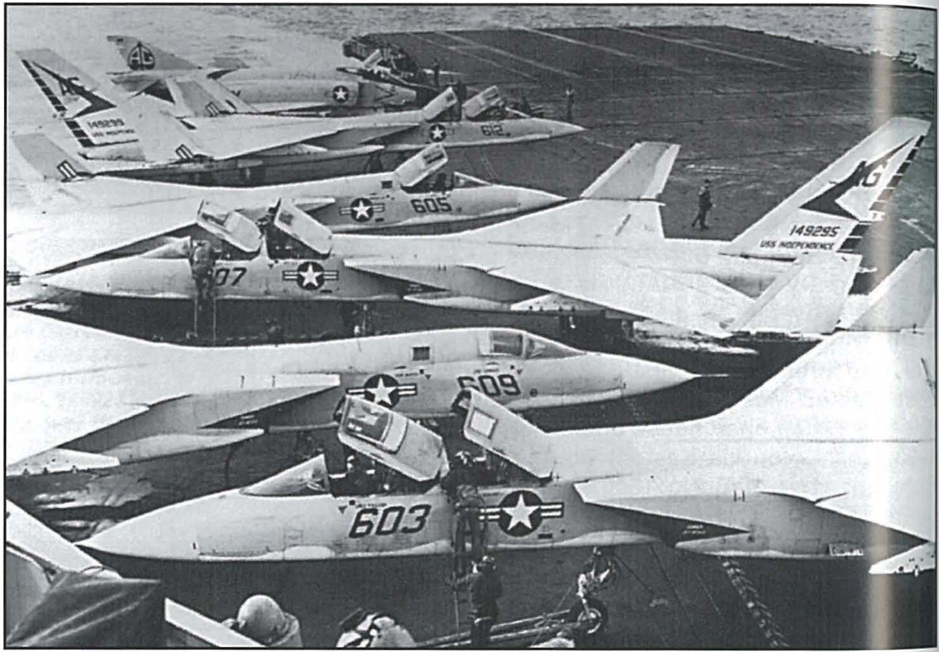






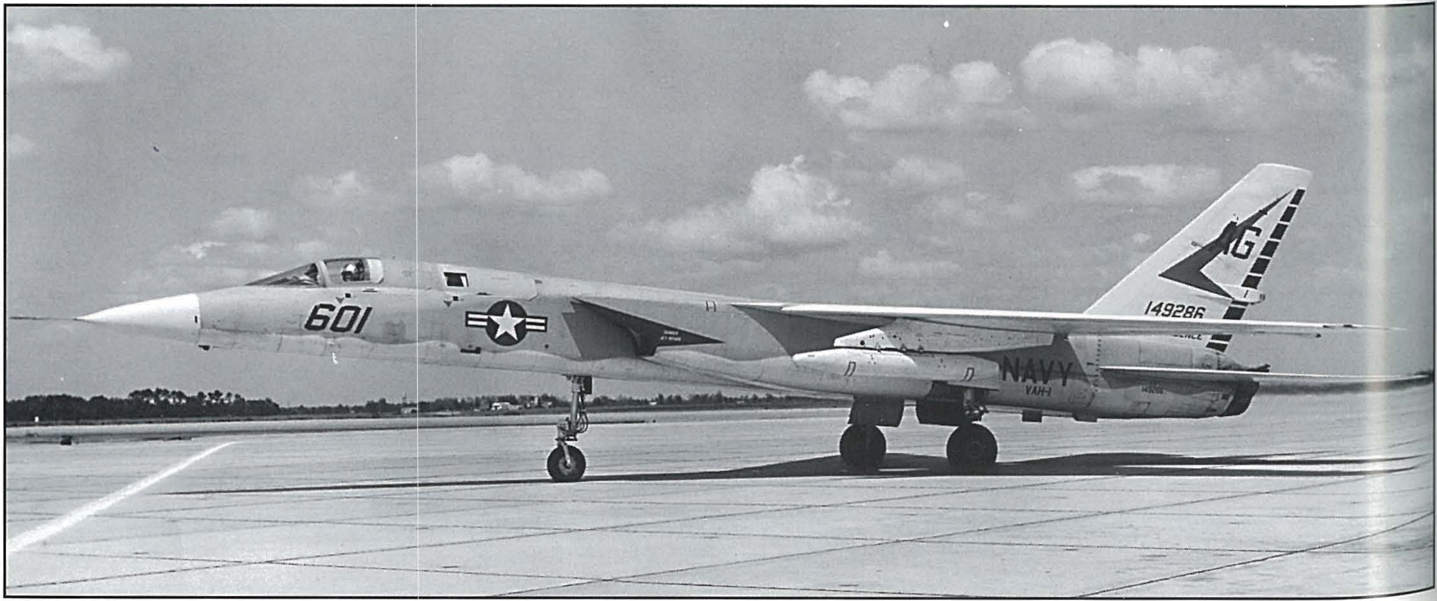


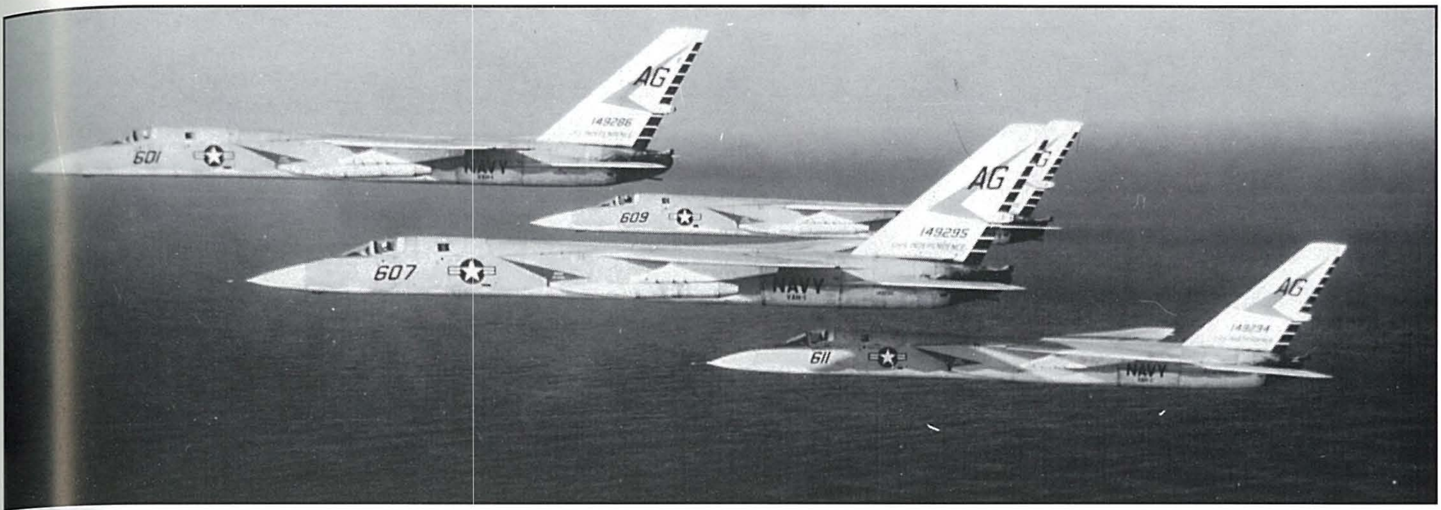
Above, VAH-1 A-5A on display during an open house. VAH-1 Vigi's had a red check mark and black trailing edge tabs on their vertical tail. (Ginter col.) Below, five VAH-1 A-5As on the deck of the USS Independence in 1963. (USN) Bottom, VAH-1 A-5A BuNo 149286 taxis at NAS Sanford, FL, in 1963. (USN via Barry Miller)



On 1 November 1955, Patrol Squadron Three (VP-3), was disestablished and Heavy Attack Squadron One (VAH-1) was concurrently established from VP-3's assets and those of VC-8. At NAS Jacksonville, FL, the unit was initially equipped with VP-3's Neptunes but received five FIP A3D-1s from NATC on 31 March 1956 in an effort to expedite fleet deployment of the Skywarrior.

The squadron moved to NAS Sanford, FL, in January 1959, and recorded the first operational launch and arrested landing aboard the USS Independence (CVA-62) in May of that year. After returning from its





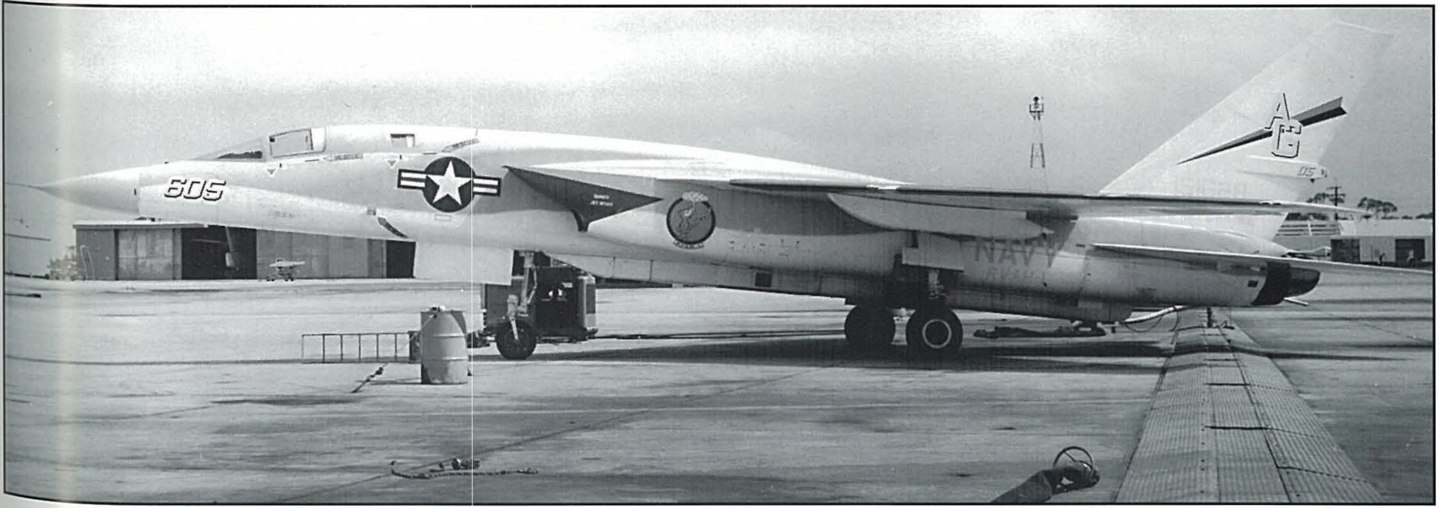
fourth Mediterranean cruise in August of 1962, VAH-1 began its transition to North American A3J-1s and by the end of the year had no A-3Bs in its inventory. The squadron's first Vigilante was accepted on 22 January 1963. In March, Heavy One won the monthly bomber stream trophy at Sanford.

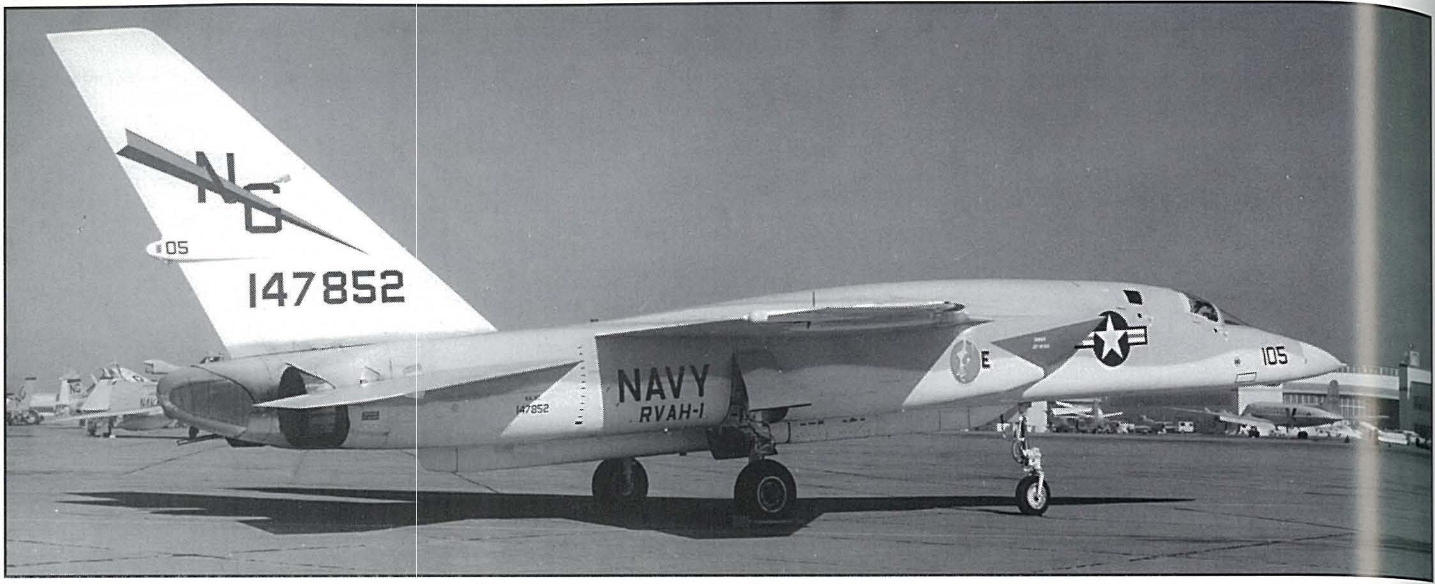
VAH-1 deployed its A-5As to the Mediterranean aboard the USS Independence (CVA-62) from 6 August 1963 through 4 March 1964. In transit of the Atlantic to the Mediterranean, Jim Bell lost tailhook snubber operation resulting in seven missed arrestments due to skip hook. The eighth attempt was a barrier engagement, the first for the Vigilante. Although the damage to the aircraft was not severe, the at-sea repairs lasted several months. Another aircraft was diverted to a civil field outside of Nice, France, after an engine failure. A replacement engine was barged ashore and the aircraft was recovered. One night during night ops an F-4 and an A-5 (BuNo 149290) were lost during the landing cycle. The Phantom crew ejected safely but the Vigilante crew didn't. The A-5A broke its back on landing and went off the angle into the sea.

The Smokin Tigers received its first RA-5C directly from Columbus on 10 July 1964. It was flown to Sanford by the squadron's skipper, CDR J. W. Taft. The unit was redesignated Reconnaissance Heavy Attack Squadron One (RVAH-1) on 1 September 1964.

During carrier qualifications aboard the USS Saratoga (CVA-60), RA-5C 150828 was lost on 20 September 1964 after the crew ejected. This was the second RA-5C the squadron lost during training, the first being BuNo 151616 that was lost on 3 September after an ejection at Sanford. After conversion to the recce-Vigi, the squadron departed for Vietnam aboard the Indy on 10 may 1965. After completing 308 combat missions, the squadron returned to CONUS on 13 December 1965. During the cruise, two crewmen and RA-5C 151619 were lost to an operational accident on 20 July. A second RA-5C, BuNo 151615, was lost to AAA over North Vietnam on 16 October 1965. Both crewmen, LCDR J. F. Bell and LCDR J. L. Hutton, became POWs.

Above, four VAH-1 A-5As (BuNos 149295 607/AG, 149286 601/AG, 149294 611/AG, unknown BuNo 609/AG) in flight over the Pacific in 1963. (USN via Fred Roos) Below, RVAH-1 RA-5C BuNo 151628 at NAS Sanford, FL, on 19 March 1965. The BuNo, Navy, and RVAH-1 were all painted light blue-grey. (Tom Cuddy via Swisher)

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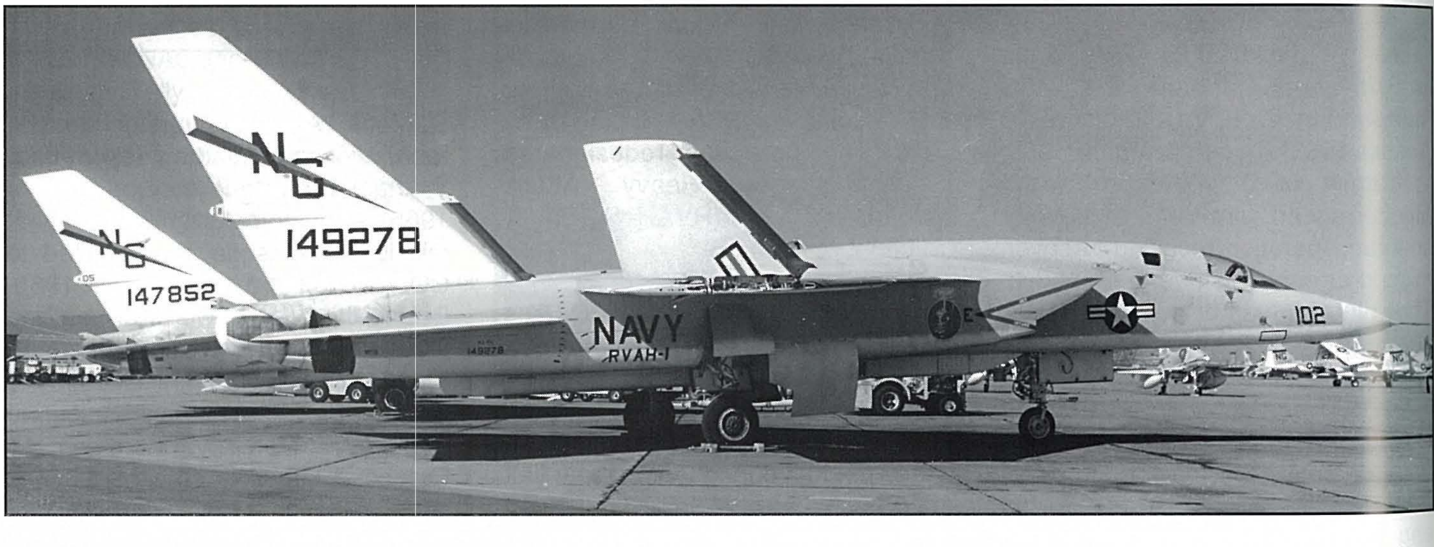
The squadron's third Vigilante cruise was to the Med and was again aboard the Independence from 13 June 1966 through 1 February 1967.

Above, RVAH-1 RA-5C BuNo 147852 from the USS Enterprise at NAS Alameda, CA, on 28 December 1967, a few days prior to deploying to Vietnam. (William Swisher) Below, RVAH-1 RA-5Cs 149278 and 147852 on 28 December 1967. Tail flash was red on top and black on the bottom. (William Swisher) Bottom, RVAH-1 RA-5C BuNo 149287 undergoing maintenance at NAS Alameda in November 1967 with the forward right engine door open. (Steve Kraus via Norm Taylor)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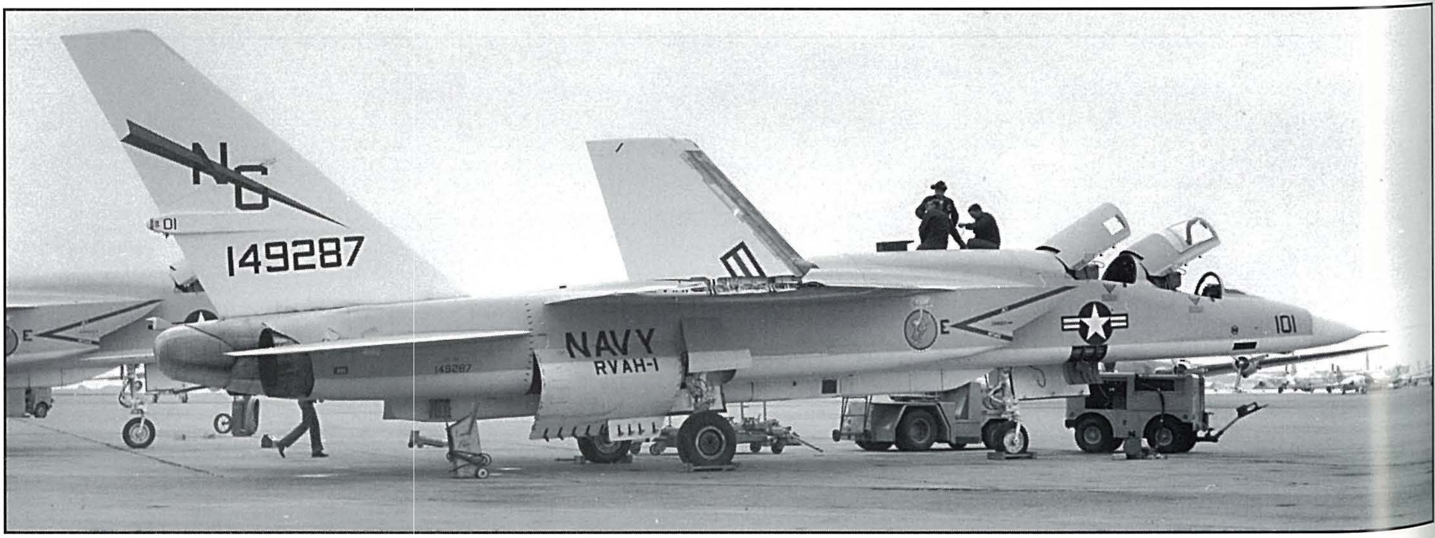
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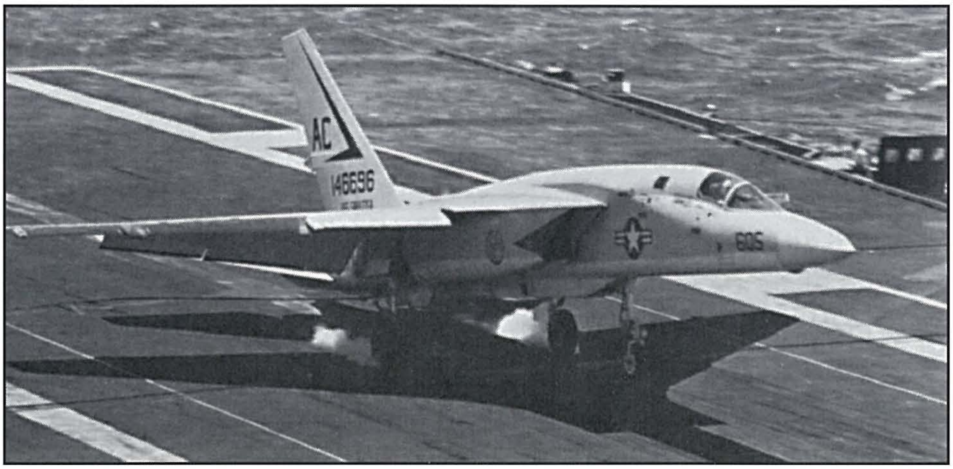
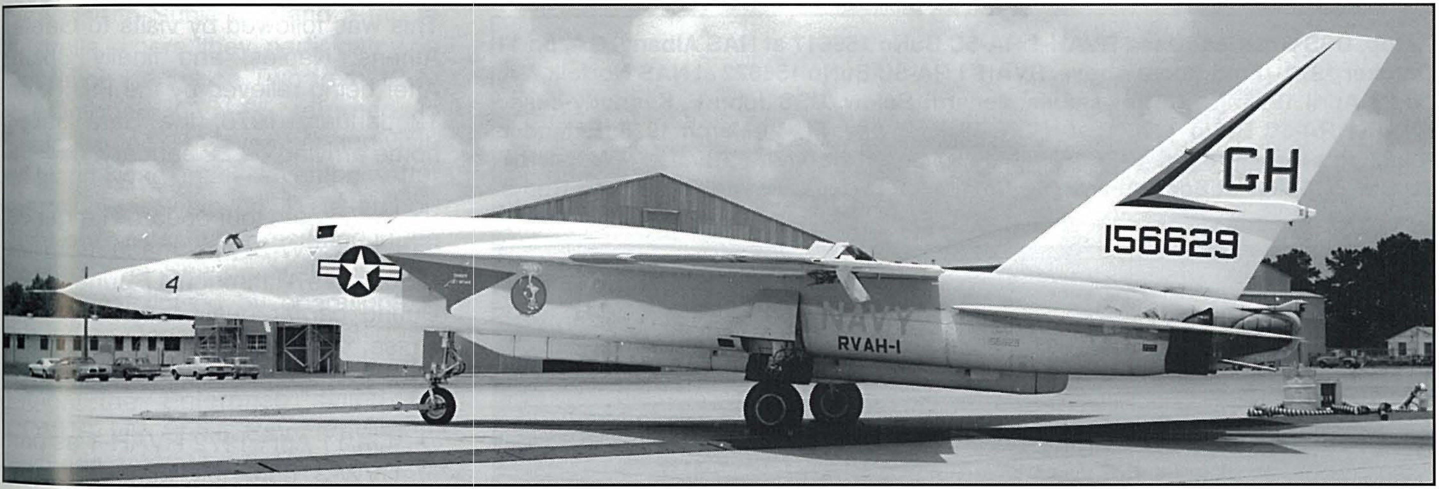
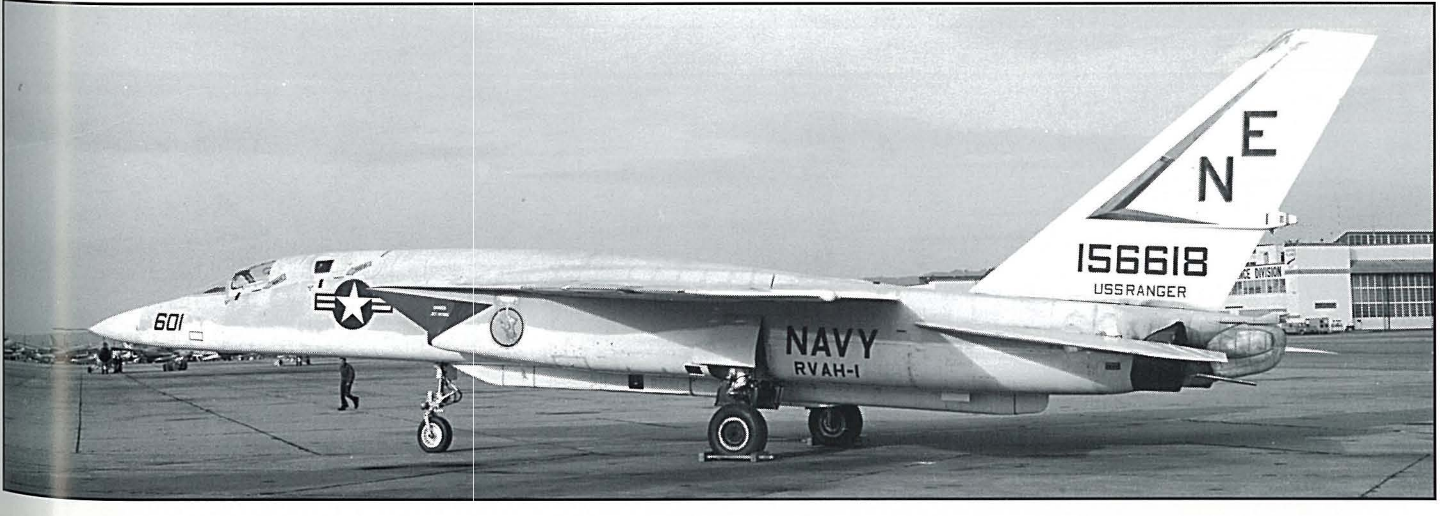
RVAH-1 joined the USS Enterprise and CVW-9 for a deployment from 3 January through 18 July 1968. In-route to Yankee Station the air wing took part in exercise Blue Lotus off Midway Island. A five-day port stop in Sasebo, Japan, came next with the ship leaving for the Tonkin Gulf on 23 January. Before arriving off Vietnam, the ship was diverted to the Sea of Japan because of the capture of the USS Pueblo by the North Koreans. The Enterprise remained on station until 16 February when she was relieved by Kitty Hawk. After arriving on Yankee station on 21 February, the squadron spent 100 days on the line and lost RA-5C 149278 to AAA over North Vietnam on 5 May 1968. The crew, LT G. R. Worthington and LT R. G, Tangeman, became POWs.

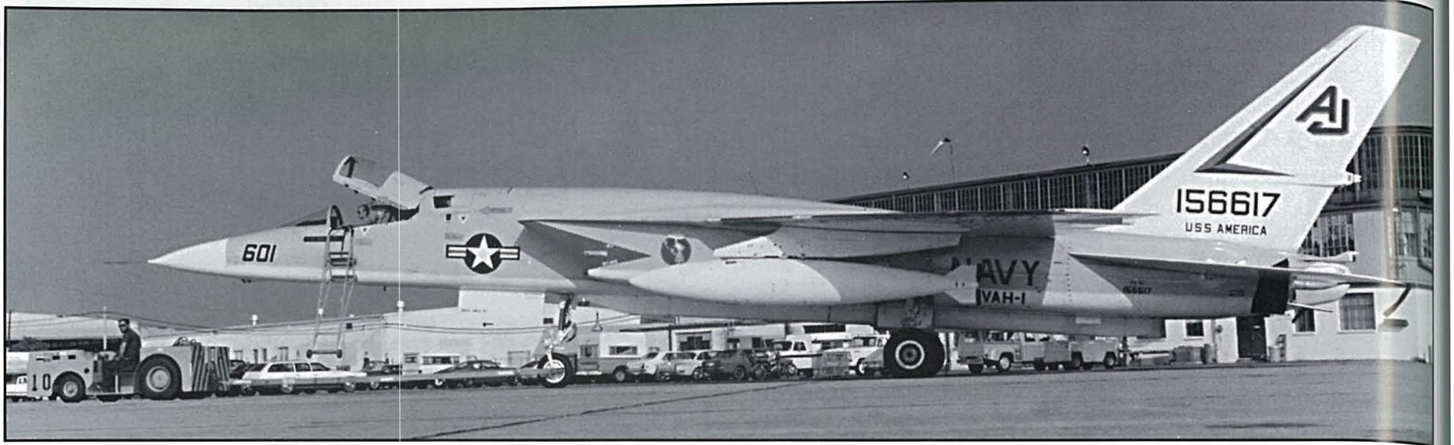
In 1969 as part of CVW-3, RVAH-1 joined the USS Saratoga (CVA-60) after it returned from its 50 million dollar overhaul. On 12 April, off the Atlantic shore, the ship hosted a NATO surface and airpower demonstration in honor of the 20th anniversary of the North Atlantic Treaty Organization. Another firepower demonstration occurred on 17 May during Armed Forces Day, with president Nixon aboard. After work-ups off Mayport and the Atlantic Fleet Weapons Range, CVA-60 sailed for the Med on 9 July 1969. On 17 July,

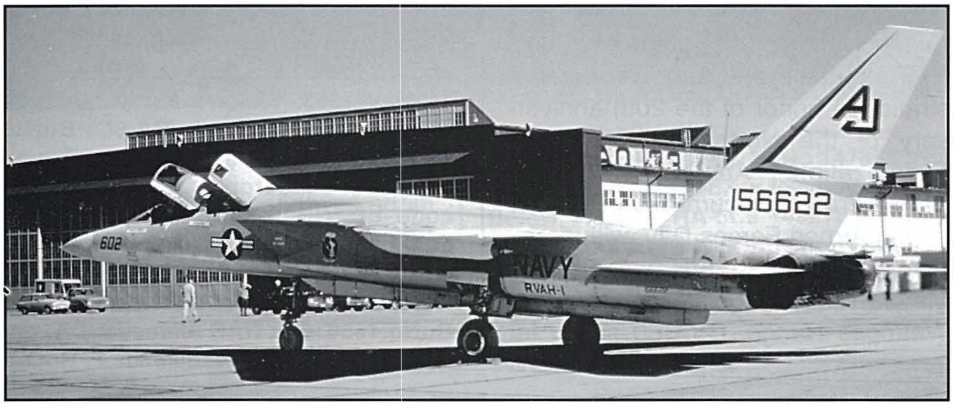


Above, RA-5C BuNo 146696 landing aboard the USS Saratoga (CVA-60) on 11 May 1969. Checkmark on tail was black. (USN) Below, RA-5C BuNo 156629 at NAS Albany, GA, on 27 July 1970 with squadron's shore-based tail code of "GH". Navy was painted in light blue-grey and tail check mark was black and red. (William Swisher) Bottom, Ranger-based RVAH-1 RA-5C BuNo 156618 at NAS Alameda, CA, on 23 October 1970. (Kasulka via F. Roos)

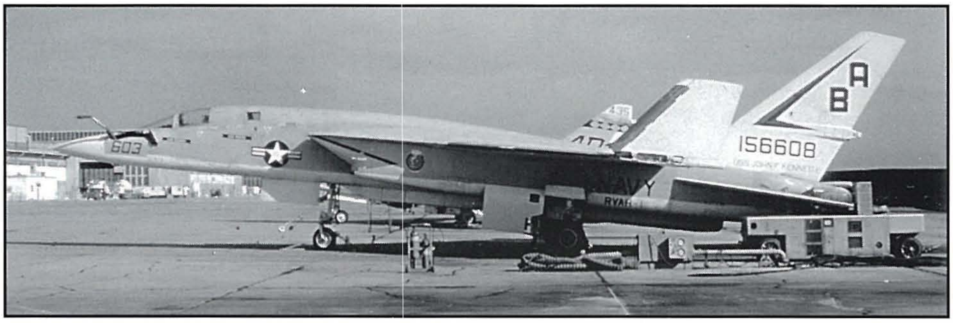








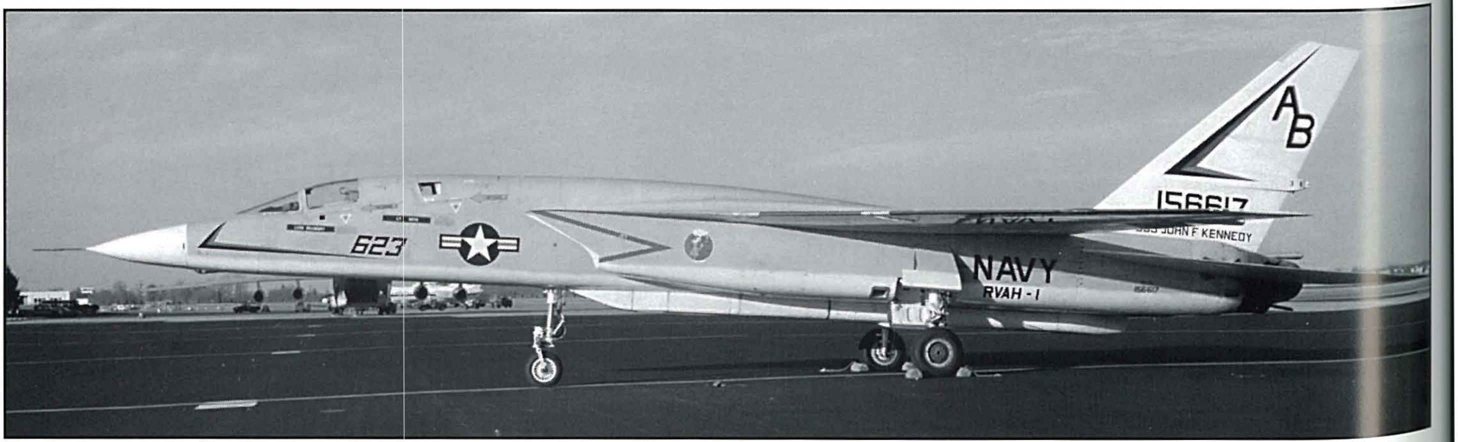
At top, USS America-based RVAH-1 RA-5C BuNo 156617 at NAS Albany, GA, on 11 October 1973. (Fred Roos) Above, RVAH-1 RA-5C BuNo 156622 at NAS Norfolk, VA, on 29 April 1973. (D. Ostrowski via Menard) Below, USS John F. Kennedy-based RVAH-1 RA-5C BuNo 156608 at NARF Jacksonville, FL, in March 1975. Extended refueling probe was red. (R. E. Kling via Kaston) Bottom, JFK-based RVAH-1 RA-5C BuNo 156617 at Scott AFB on 16 November 1975. (L. Reynolds via Fred Roos)



two Soviet TU-95 Bears were intercepted and photographed. Tensions ran high in September after exercise National Week IV when three crises occurred. The first was a large build-up of Soviet Naval units in the Eastern Med. The second was the hijacking of a Trans World Airways airliner to Syria and the third was the political coup in Libya. When tensions had eased, the Sara participated with French naval units in Exercise Mediterranean in December 1969. This was followed by visits to Gaeta, Athens, Naples, and finally Spain. After being relieved by the F.D.R. on 12 January 1970, the Sara sailed home arriving on 22 January.

A Vietnam tour aboard Ranger as part of CVW-2 was made from 27 October 1970 through 17 June 1971. During carrier qualifications for this cruise, 156629 was lost when the crew ejected on 27 September 1970.

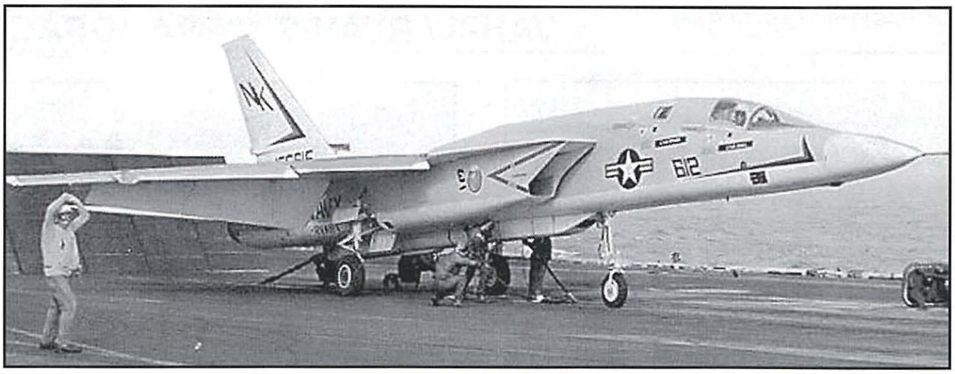
On 11 April 1972 RVAH-1 as part of CVW-3 departed Mayport for a combat cruise to Vietnam. The Saratoga reached Subic Bay, PI, via



the Indian Ocean on 8 May. She arrived on-line on 13 May and commenced combat operations. During the cruise RA-5C 156616 went down close to Haiphong Harbor, but luckily the crew was recovered. The carrier left Yankee Station on 7 January and returned to Mayport on 13 February 1973.

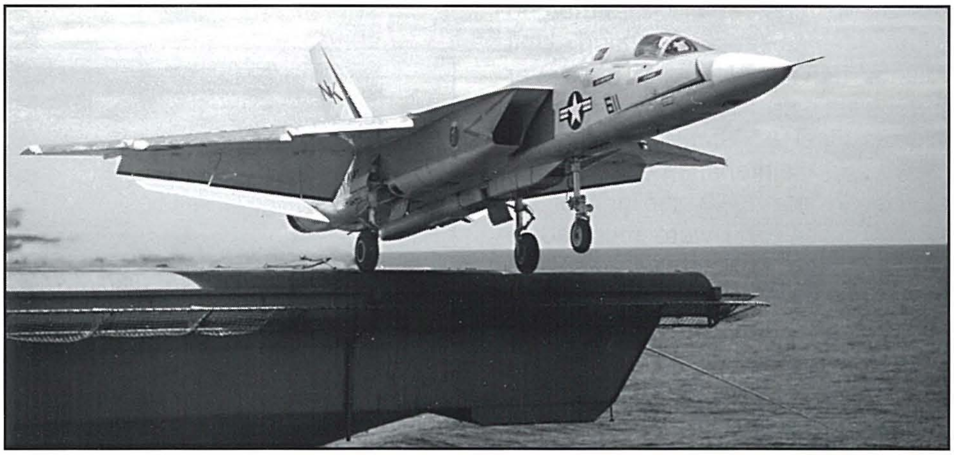
CVA-66 hosted RVAH-1 from 3 January through 3 August 1974 on a Med cruise. The ship put to sea again for a NATO exercise from 6 September through 12 October 1974.

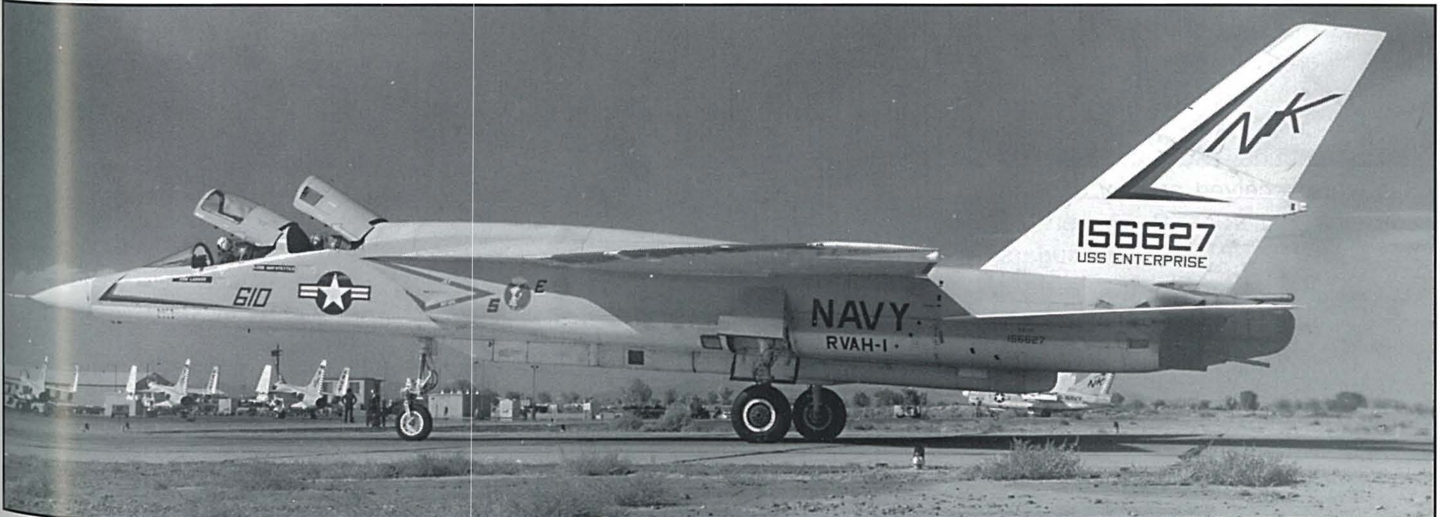
RVAH-1 returned to the Enterprise in 1976 with CVW-14. In January 1976, the Air Wing conducted refresher training. In February they participated in Operation Valiant Heritage. Carrier qualifications were conducted in early April and final work-up for deployment took place in July. The WestPac cruise commenced on 30 July and the ship operated off of Hawaii during the first two weeks in August. This was followed by a visit to Subic Bay and a trip to Australia where they participated in Operation Kangaroo Two from 12 to 25 October. CVN-65 returned to Subic Bay on 21 November and visited Hong Kong on 28 November. After returning to Subic on 4 December, flight operations were resumed in the South China Sea on 14 December. This was followed by operations in the Indian Ocean where the ship visited Kenya. After 43-days in the region the Enterprise sailed for CONUS via Subic Bay, arriving at Alameda on 28 March 1977.



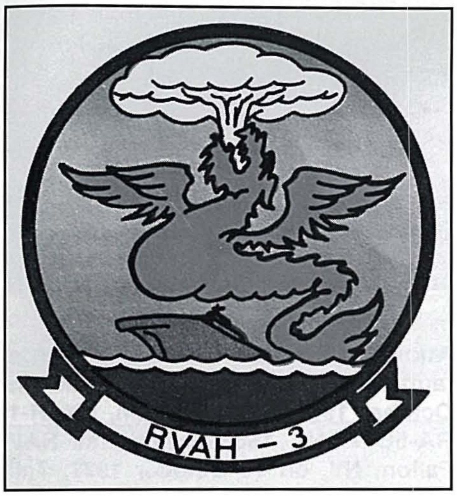
Above and below, RVAH-1 RA-5Cs launching from the Enterprise in October 1976. (USN) Bottom, RVAH-1 RA-5C BuNo 156627 taxis at NAF Fallon, NV, on 19 October 1977. Tail and nose stripes were red and black. (William Swisher)

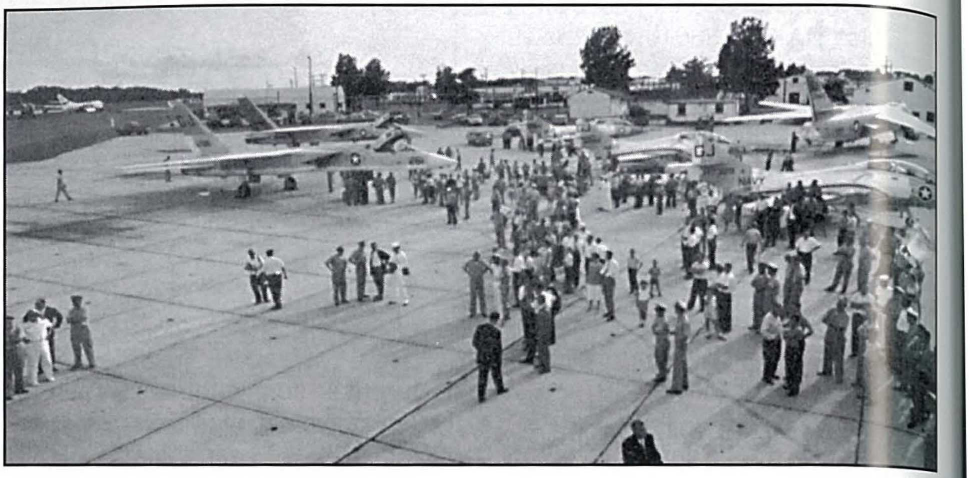
The Smokin' Tigers returned to Enterprise for another WestPac deployment from 4 April through 30 October 1978. Enroute to Hawaii the ship participated in RimPac 78 before arriving at Pearl Harbor on 23 April. In late May the Air Wing operated in Exercise Cope Thunder. In July, after a week of air operations in the South China Sea, the ship returned to the Indian Ocean. This was followed by visits to Freemantle, Australia, Singapore and Cubi. On 16 September Enterprise joined Midway and sailed to Korean waters. After a mock battle with the Constellation and a Tiger cruise off Hawaii, CVN-65 arrived at Alameda on 30 October. On 25 January 1979, RVAH-1 was disestablished.





VAH-3 / RVAH-3 "SEA DRAGONS"





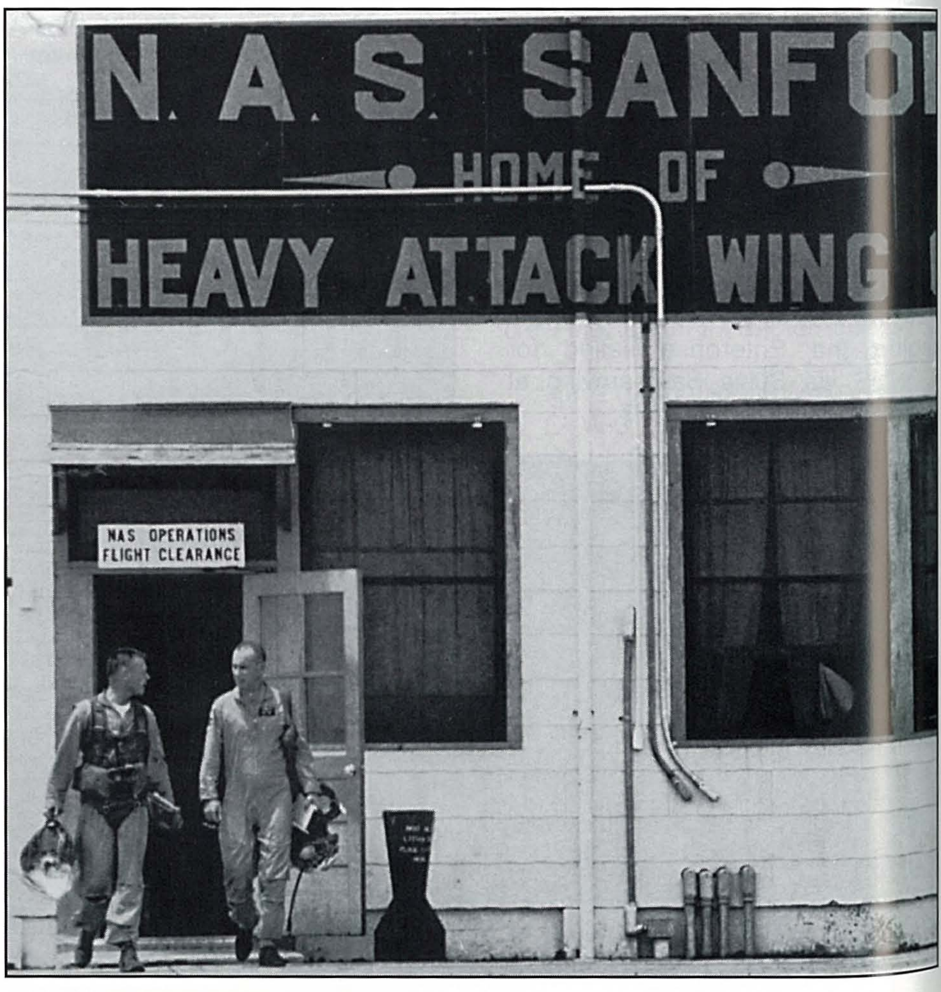
Heavy Attack Squadron Three (VAH-3) was established at NAS Jacksonville, FL, on 15 June 1956 from the assets of VP-34. Initially equipped with the A3D-1, Heavy Three would be one of only two squadrons to make a carrier deployment with the dash one version.

On 10 June 1958, VAH-3 merged with Heavy Attack Training Unit Atlantic (HATULANT) and took over the training responsibilities for Atlantic Fleet A3D replacement flight crews and maintenance support personnel. In late 1959, the first of six A3D-2Ts (TA-3Bs) were received to replace the Lockheed P2V-3B Neptunes that had been used as bombardier / navigator trainers. In 1960, the squadron's training mission was reorganized and expanded in anticipation of the arrival of the North American A3J-1 (A-5A) Vigilante. Also in 1960, during the annual Bombing Derby at NAS Sanford, FL, VAH-3 won the Weapons Loading and Carrier Airmanship Trophy.

On 16 June 1961, the first four A3Js were received and by January 1962, the unit's assets were: one R4D-7, four F9F-8T (TF-9J) Cougars, six A3D-2T (TA-3B) Skywarriors, twelve A3D-1 (A-3A) Skywarriors and eight A3J-1 (A-5A) Vigilantes. In September 1961, VAH-3 assumed the responsibility for carrier qualifying all replacement A3J-1 pilots prior to their assignment to an operational squadron.

The failure of the A-5A to excel in the bombing role and the dwindling need for a carrier-based nuclear mission due to the submarine-based Polaris missile system, led to a redesign and a new mission for the Vigilante. The "Vigi's" new primary mission was to be that of photographic reconnaissance. The redesigned aircraft became the RA-5C, and in

Above, arrival of the first A3J-1s at NAS Sanford, FL, on 16 June 1961. Navy personnel and city officials walk the VAH-3 ramp with two A3J-1s, three F9F-8Ts and one A3D-2T in the background. (MFR) Below, CAPT Joe Tully, left, CO of HATWINGONE and CDR S. Johnson, CO of VAH-3, leave Sanford's Operations Building before a flight in the new Mach 2 Vigilante. (MFR)

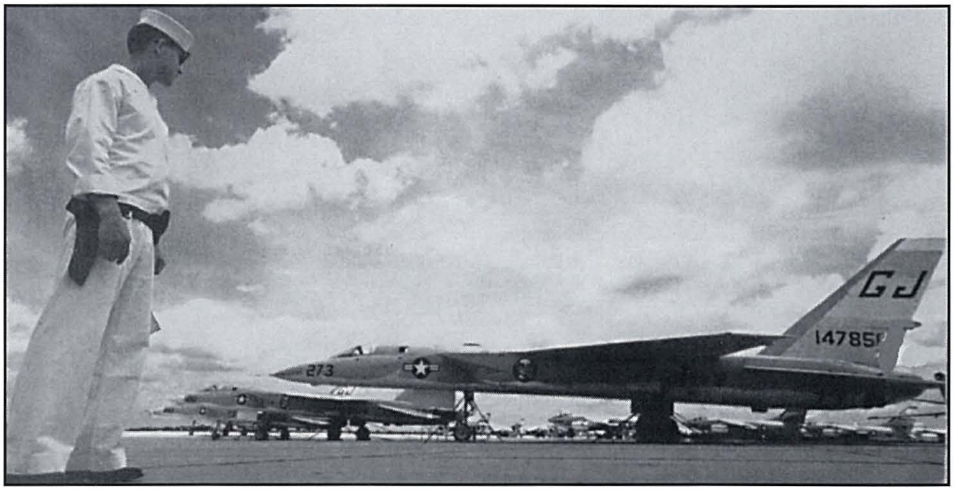


preparation for this new aircraft, the squadron received two A-5Bs (149300, 149302) and four A-5C(L) (149301, 149303-149305) interim aircraft in June 1963. These aircraft were similar in structure to the RA-5C and were used for transitional training of A-5A crews into the RA-5C. By the time the first RA-5C was received on 10 December 1963, the A-3A had been retired from the squadron. The TA-3B continued to be used and the last A-3B class was graduated on 23 January 1964. The TA-3Bs continued on as training aircraft for the RA-5C program and were still being used when the squadron was redesignated RVAH-3 on 1 July 1964.

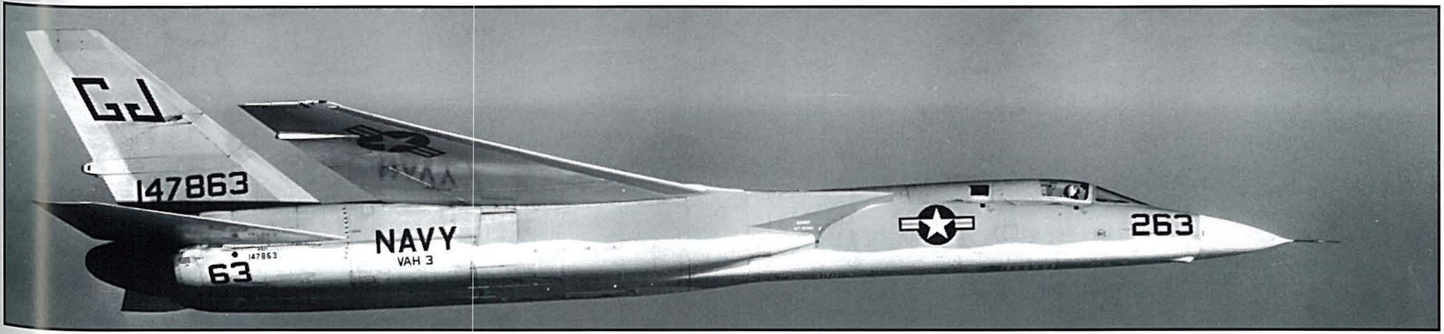
In the spring of 1965, RVAH-3 again proved its effectiveness by capturing the Reconnaissance Attack Wing One Bombing Derby Trophy. Winning by over 700 points, squadron personnel brought home six trophies.

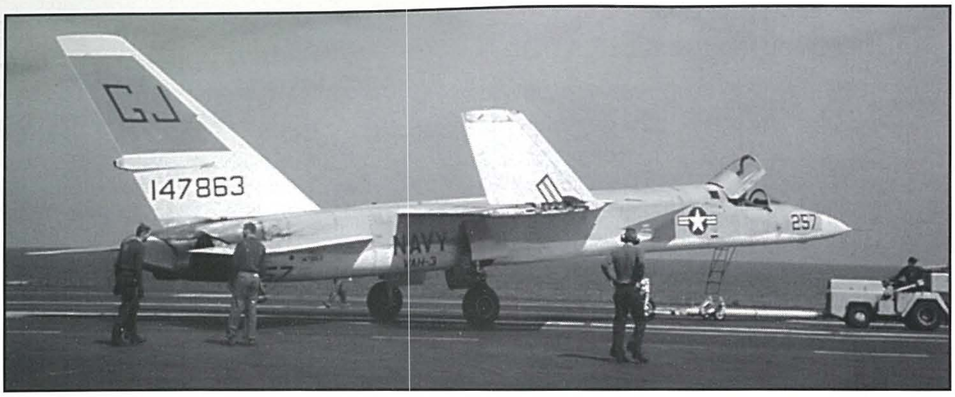
August 1966 saw the last A-5A depart the squadron for conversion at North American. By the end of 1966, RVAH-3 reached the 10,000 accident free flight hour mark.

On 1 May 1968, the squadron transferred to NAS Albany, GA. In April 1969, the unit received the upgraded RA-5Cs from North

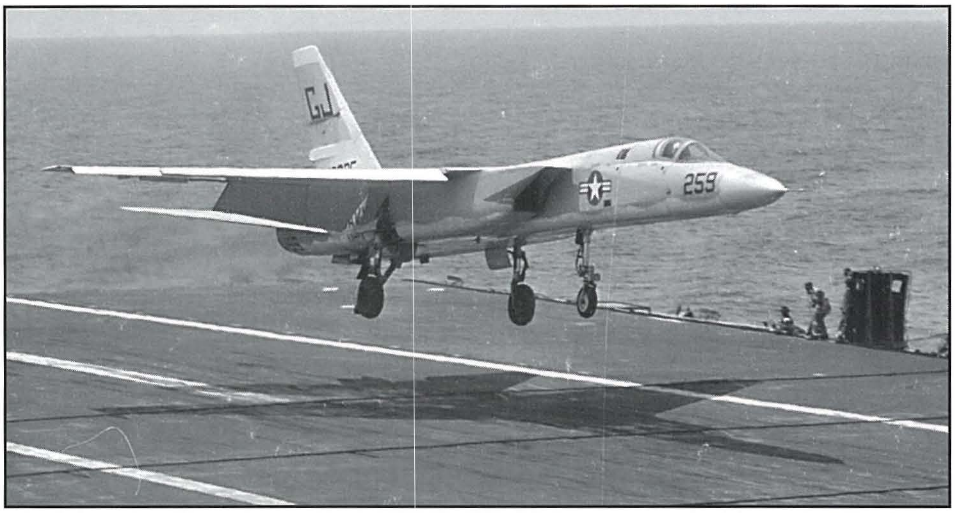


Above right, armed sailor guards the first four A3J-1s shortly after arrival at Sanford, FL, in June 1961. (MFR) Above right, A3J-1 BuNo 147856 was one of the first four aircraft received by VAH-3. Underbelly trim was red. (MFR) At right, three VAH-3 A3J-1s penetrate a typical Florida cloud deck in 1962. (USN via Barry Miller) Bottom, VAH-3 A3J-1 BuNo 147863 on 29 November 1961. (USN via Barry Miller)





Above, VAH-3 A-5A BuNo 147863 being towed on the deck of the USS Saratoga (CVA-60) during carrier qualifications. By 1963, VAH-3 Vigilantes wore a wide da-glo red tail stripe as seen here. (via Kaston) Below, VAH-3 A-5A landing aboard Saratoga. (AAHS via Kaston) Bottom, VAH-3 A-5A BuNo 148931 aboard Saratoga. (AAHS via Kaston)



American. This newer version was equipped with more powerful GE-J79-10 engines and had improved flight characteristics.

From December 1968 through December 1969, RVAH-3 graduated 26 replacement pilots and 23 RANs. In addition. 1,644 enlisted maintenance personnel were trained, more than double that of the previous year. On 1 July, the Integrated Operational Intelligence Center (IOIC), formerly a department of RVAH-3, became a separate command within Reconnaissance Attack Wing One.

From December 1969 through December 1970, the squadron gradu-

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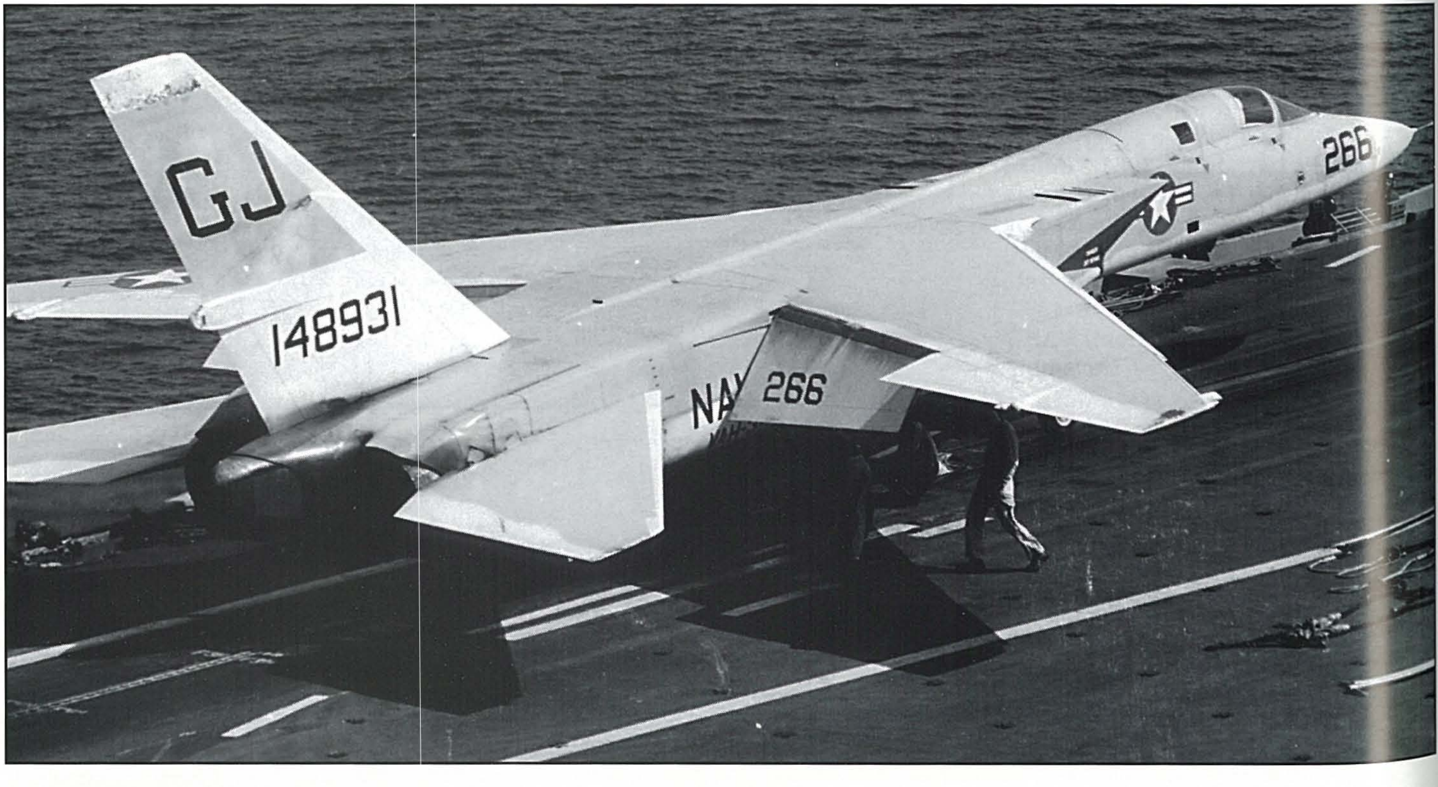
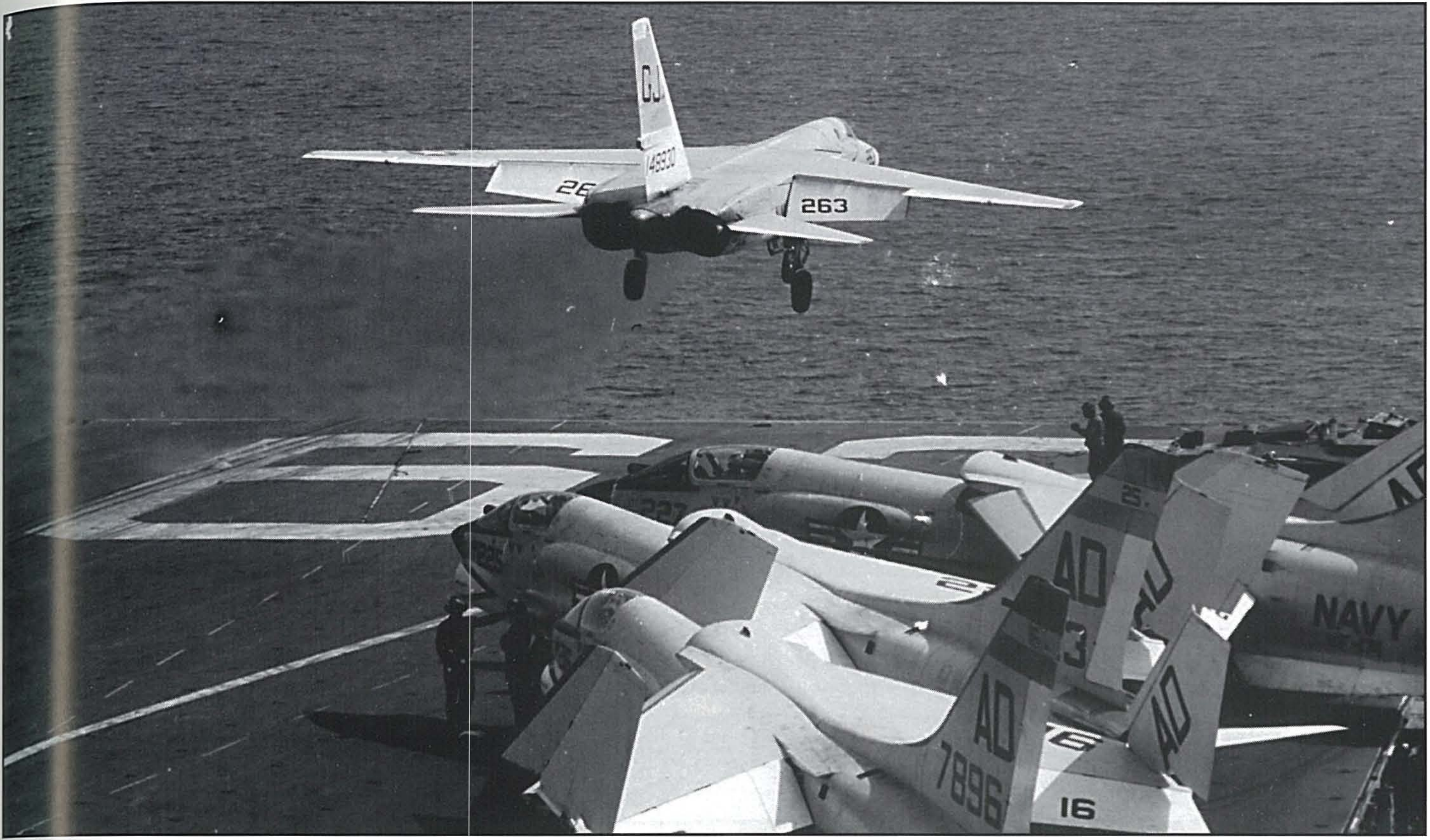
At right top, VAH-3 A-5A BuNo 148930 being catapulted off CVA-62. (AAHS via Kaston) Above right, when VAH-3 became RVAH-3, the squadron's Vigilantes sported two da-glo red tail stripes. BuNo 148929 is seen on 19 March 1965 at NAS Sanford, FL. (Tom Cuddy via Swisher) Below right, RVAH-3 RA-5C BuNo 150839 at Sanford on 19 March 1965. Navy was painted in light blue-grey. (Tom Cuddy via Swisher) Bottom right, RVAH-3 RA-5C during carrier qualifications on 20 March 1967. (MACD via Fred Roos)

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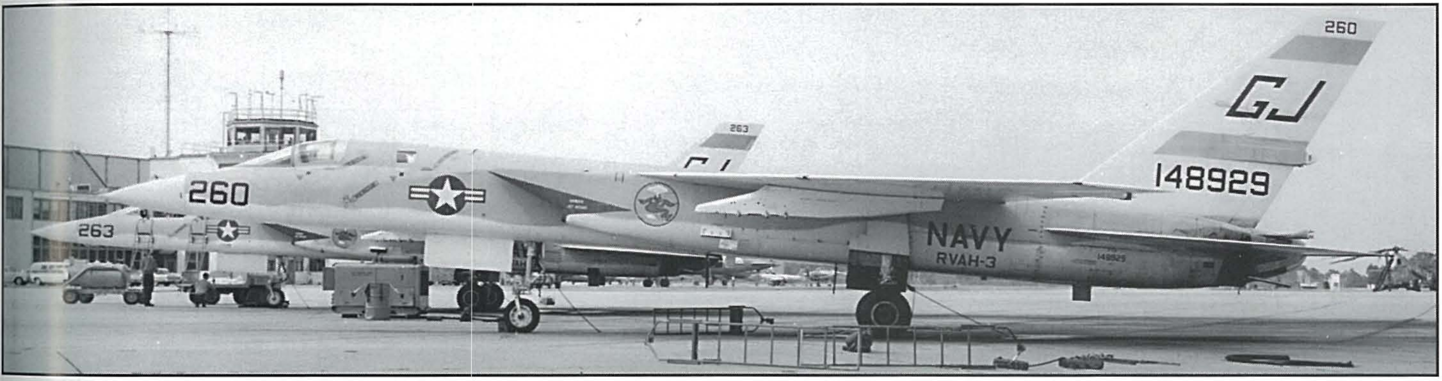
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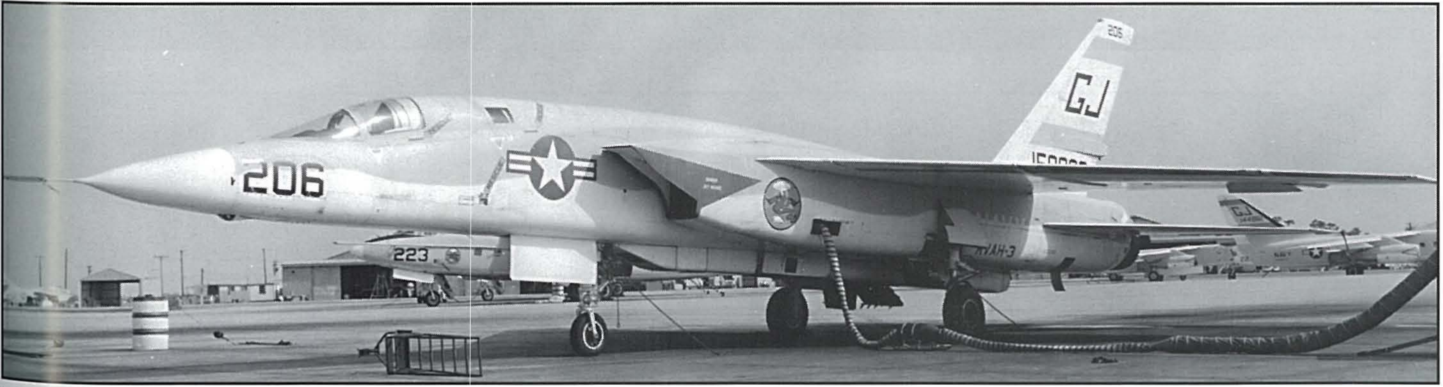
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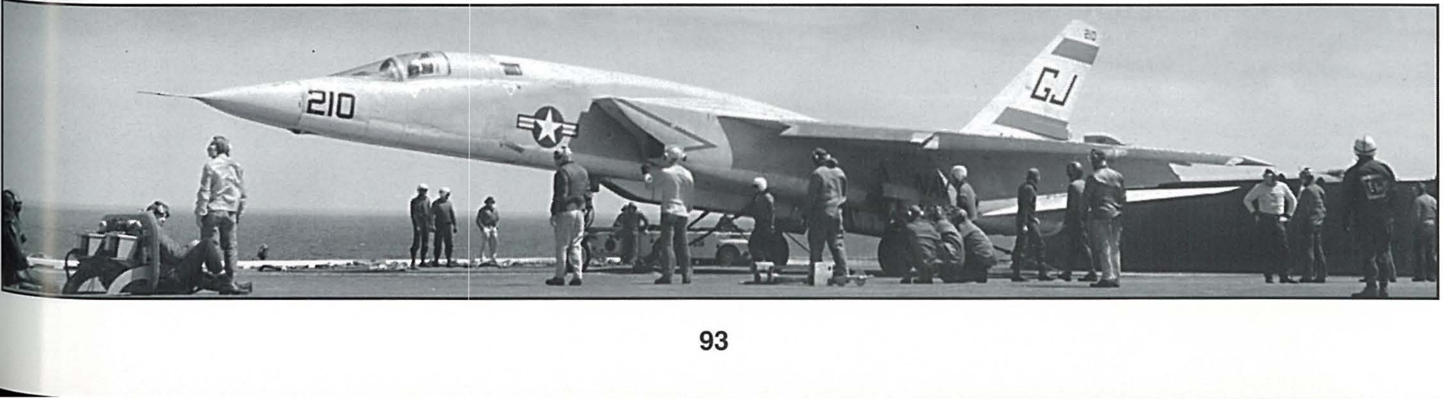
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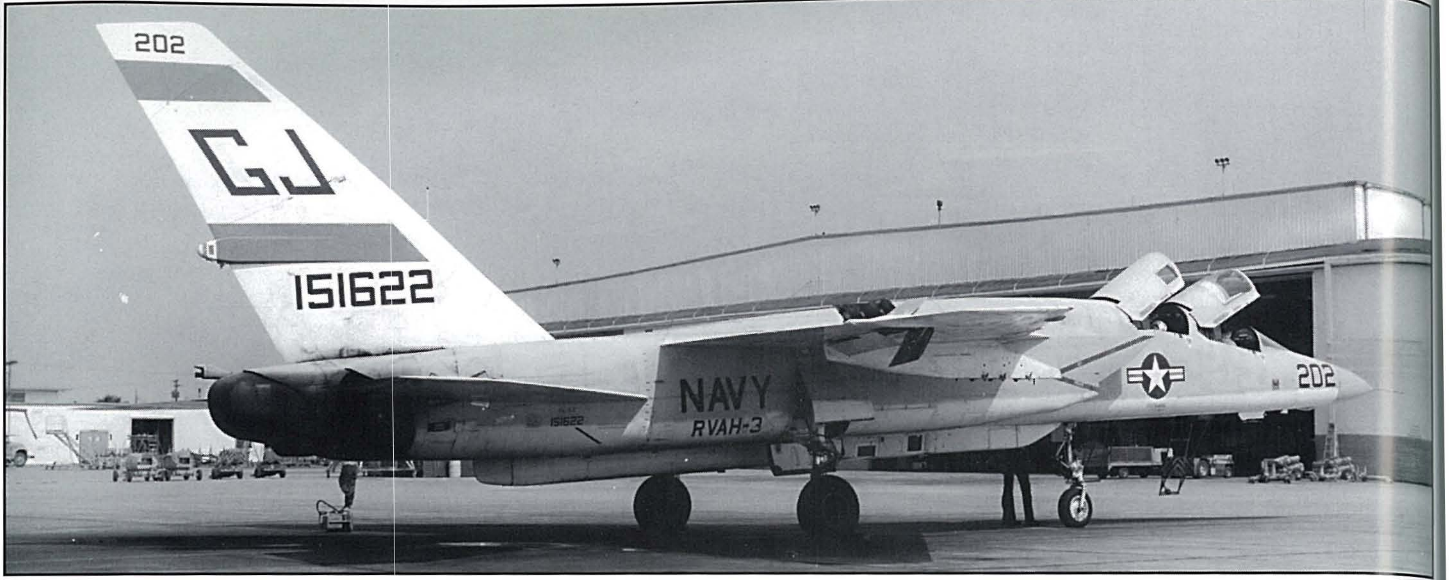
202
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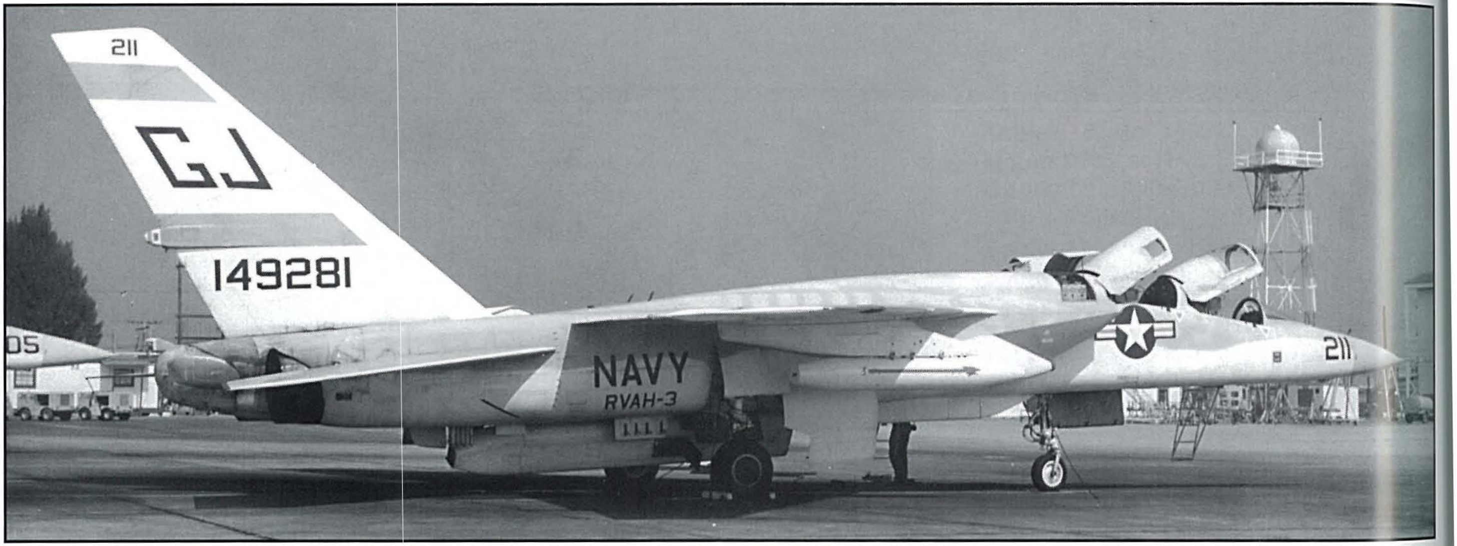
Above, RVAH-3 RA-5C BuNo 151622 at NAS Sanford, FL, on 26 May 1967. (William Swisher) Below, RVAH-3 RA-5C BuNo 149281 at Sanford with recon canoe fairing open on 26 May 1967. (William Swisher) Bottom, RVAH-3 RA-5C BuNo 156609 at NAS Albany, GA, on 27 July 1970. Stripes front to back were: red, yellow, orange, green, blue, and black. (William Swisher)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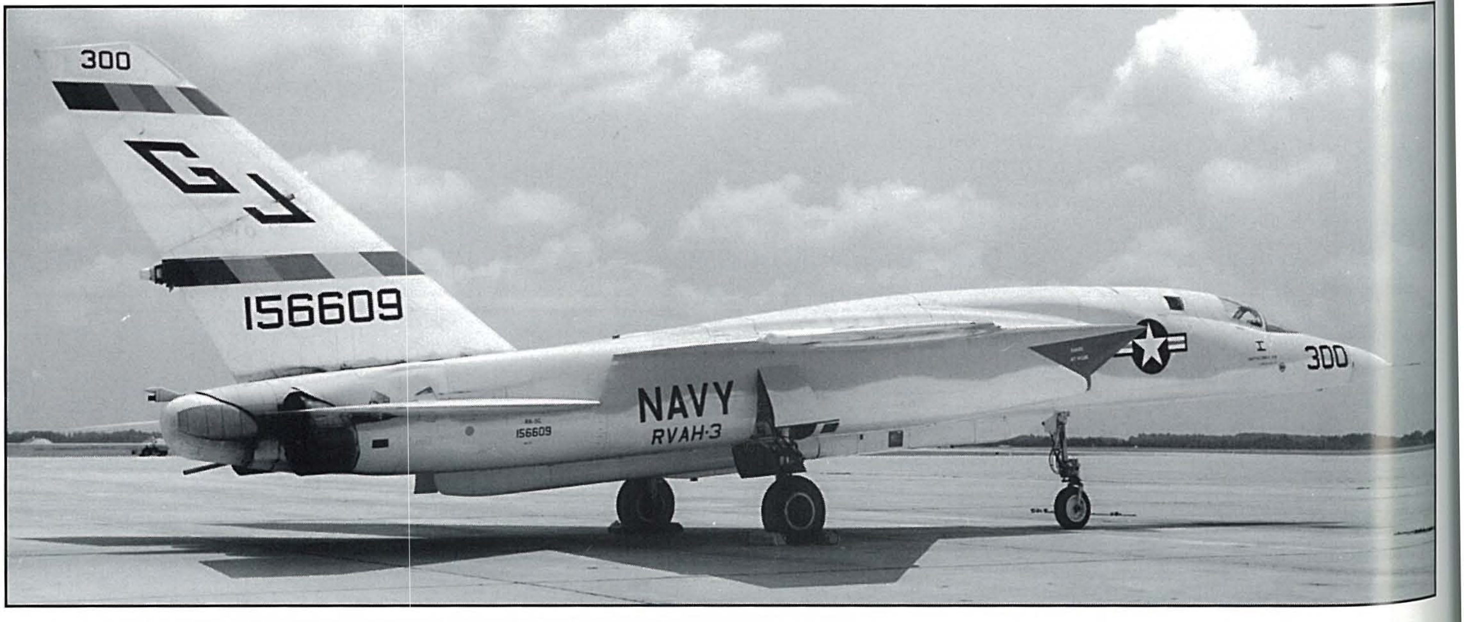
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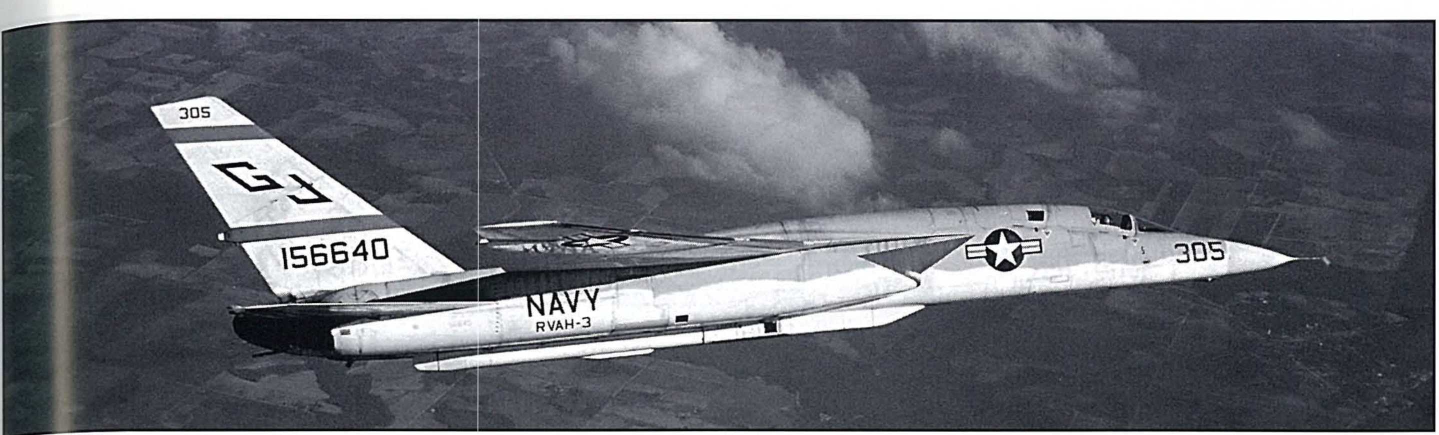
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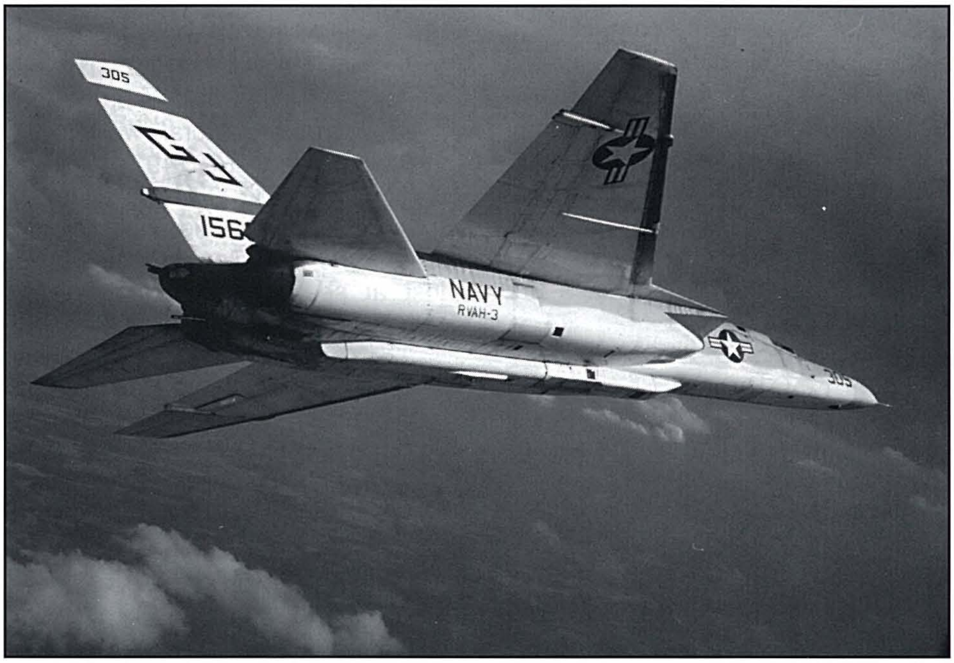
ated 29 replacement pilots and 27 RANs. The Fleet Replacement Aviation Maintenance Program (FRAMP) trained 813 enlisted maintenance personnel for fleet squadrons.

In 1970 and 1971, RVAH-3 was presented the CNO Safety Awards. From December 1970 through December 1971 18 replacement pilots and 30 RANs were graduated and total flight hours reached 7,181.4

Above and below, RVAH-3 RA-5C BuNo 156640 in flight. (USN via James Taylor) At right, RVAH-3 RA-5C in flight in June 1971. (USN)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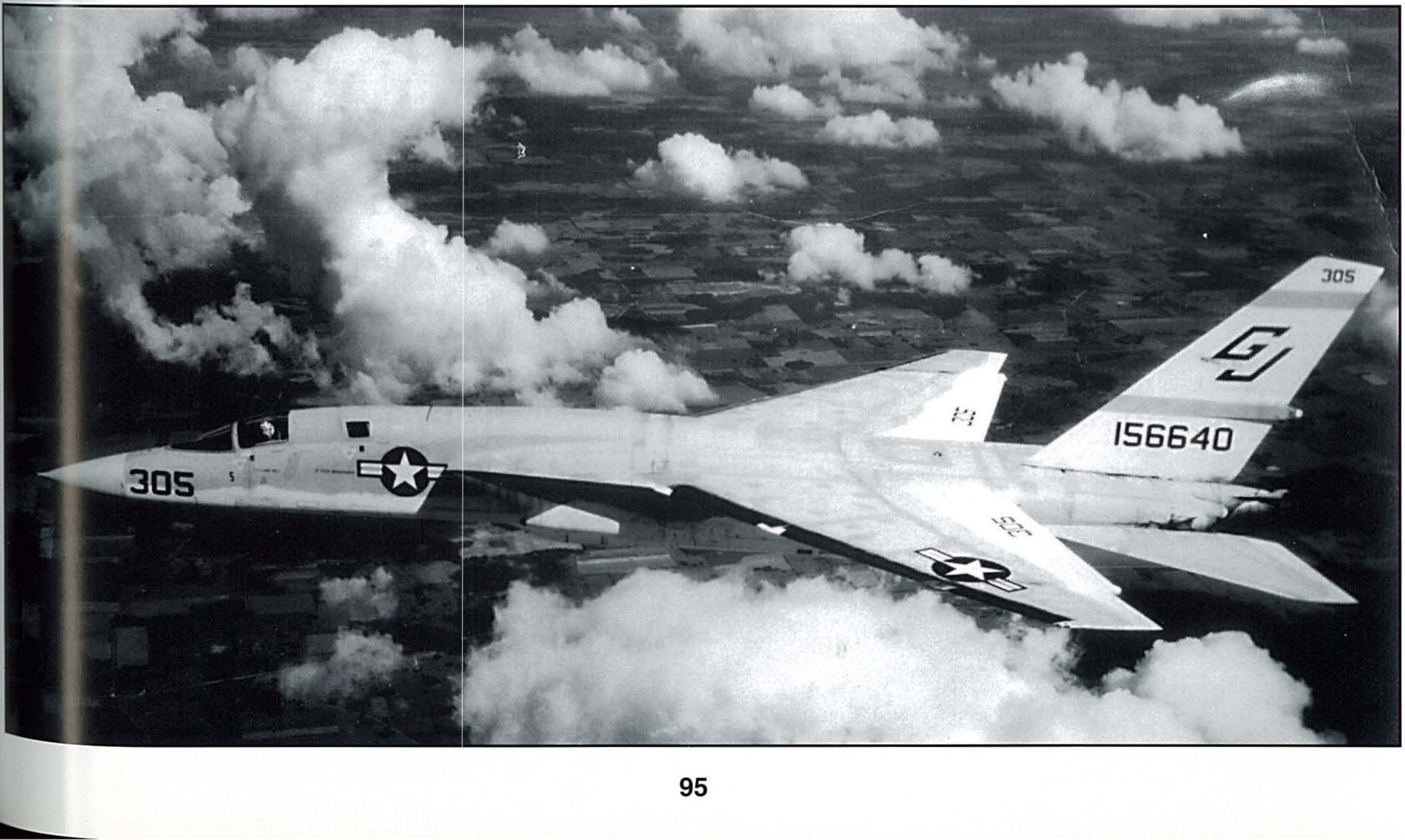
RVAH-3


305
GJ
156640
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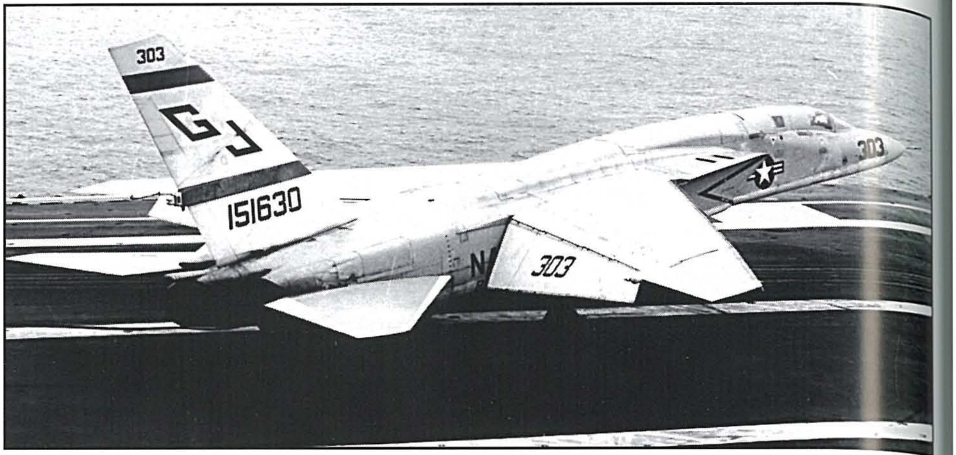
hours. The FRAMP program trained 1,226 enlisted maintenance personnel.

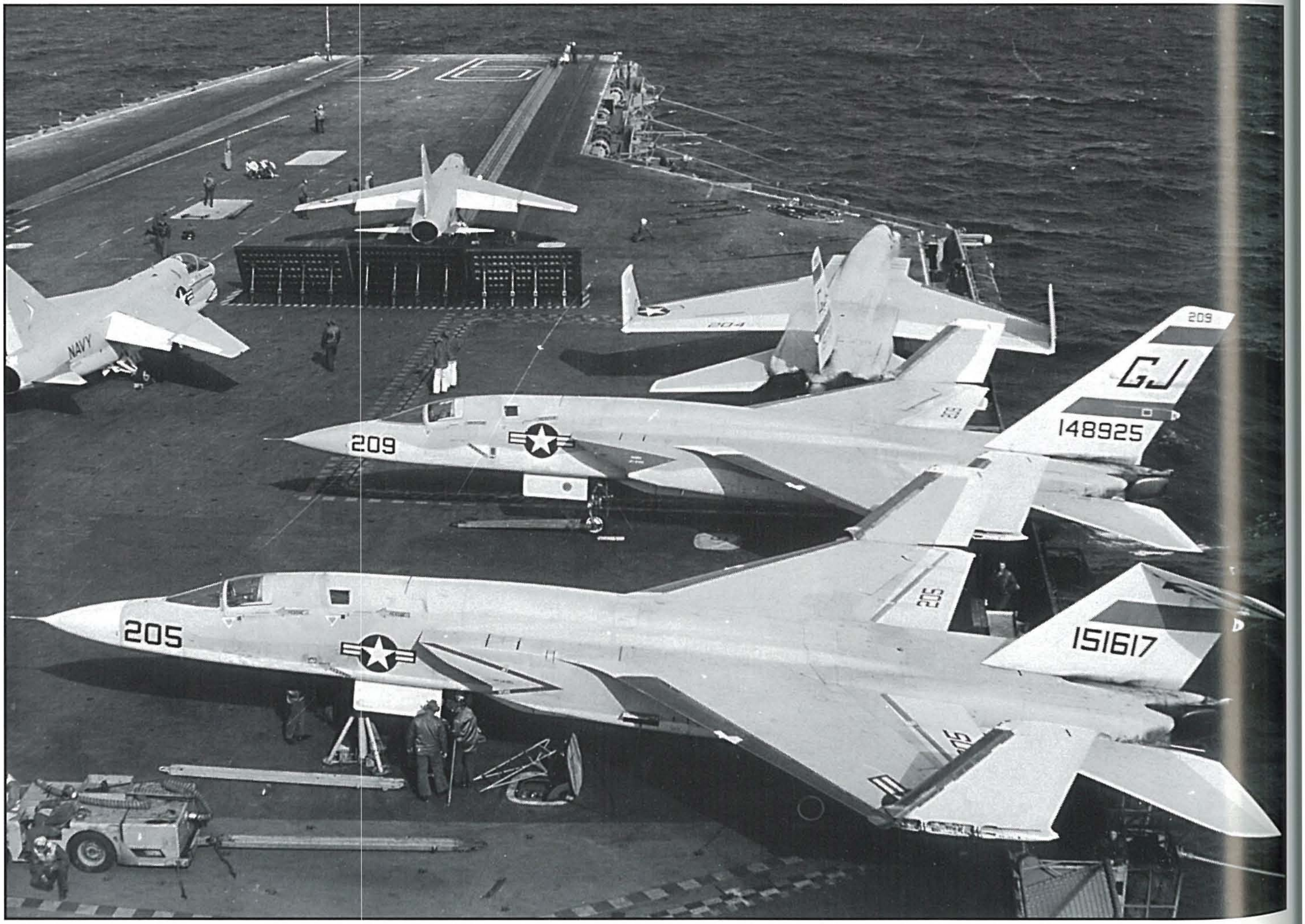
In 1972, monthly flight time per aircraft ratio reached an all time high of 46.3. The squadron produced 19 pilots and 17 RANs for the fleet Heavy Rece squadrons. Aircraft inventory was reduced from 14 to 8 during 1972 and 4,953.5 RA-5C hours were flown.

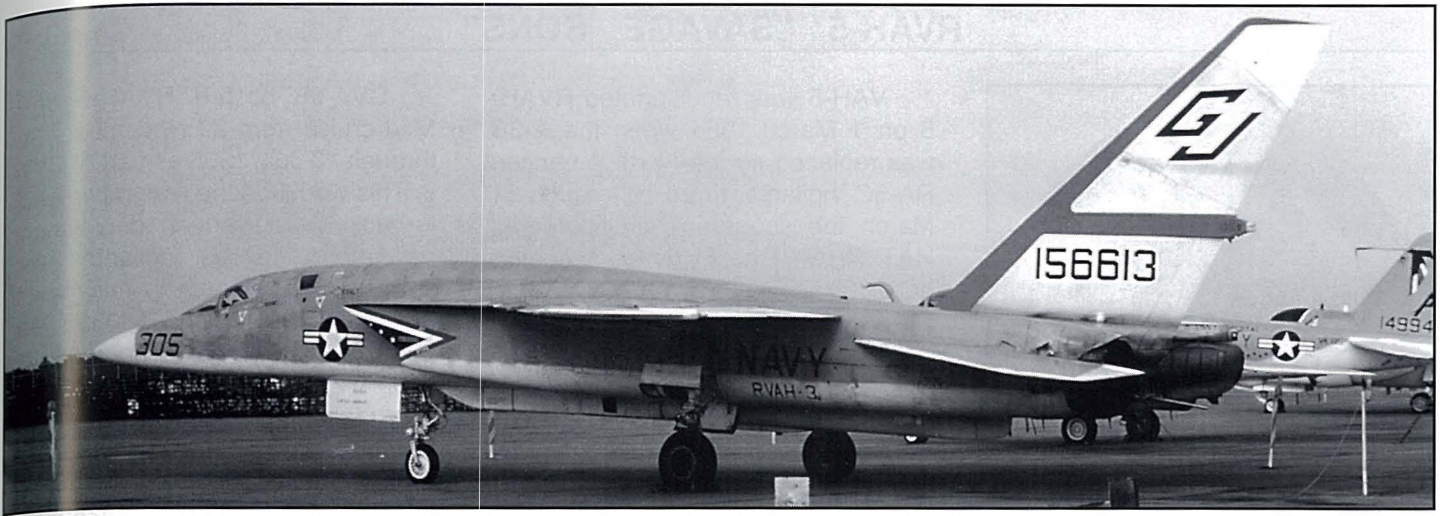
On 15 January 1974, RVAH-3 transferred to its new base at NAS Key West, FL, where the squadron was disestablished on 17 August 1979.

VAH-3 lost eleven Vigilantes, the first being A3J-1 BuNo 147862 which was striken aboard the USS Franklin D. Roosevelt on 9 January 1962 after a deck accident. The second loss occured when LCDR Lovelace and ADJ-1 Kelsey ejected from RA-5C BuNo 148930 on 5 September 1963. A third, RA-5C BuNo 149292 was lost on 8 September 1964. 150827 was lost on 15 December 1965. The fifth Vigi to be lost was 149314 on 14 June 1967. Two more aircraft were lost in 1967; these were 149315 on 17 August and 151728 on 6 December. In 1968 during carrier qualifications aboard the USS Ranger, 149280 was lost at sea on 9 September. Two more aircraft were lost in 1974, with 149296 going down on 5 March and 151630 being lost on 13 August. The last aircraft lost was 156619, which was lost on 12 January 1978 at Albany, GA.



Above, RVAH-3 RA-5C BuNo 151630 on CVA-43 in 1970. (via Burger) Below, three RVAH-3 RA-5Cs (151617, 148925, unknown) on CV-66 for carquals with two NATC Corsairs. (AAHS via Kaston)




156613
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NAVY
RVAH-3
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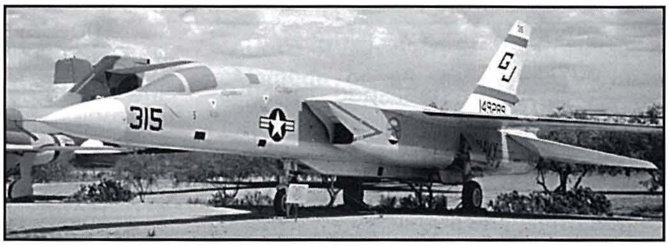
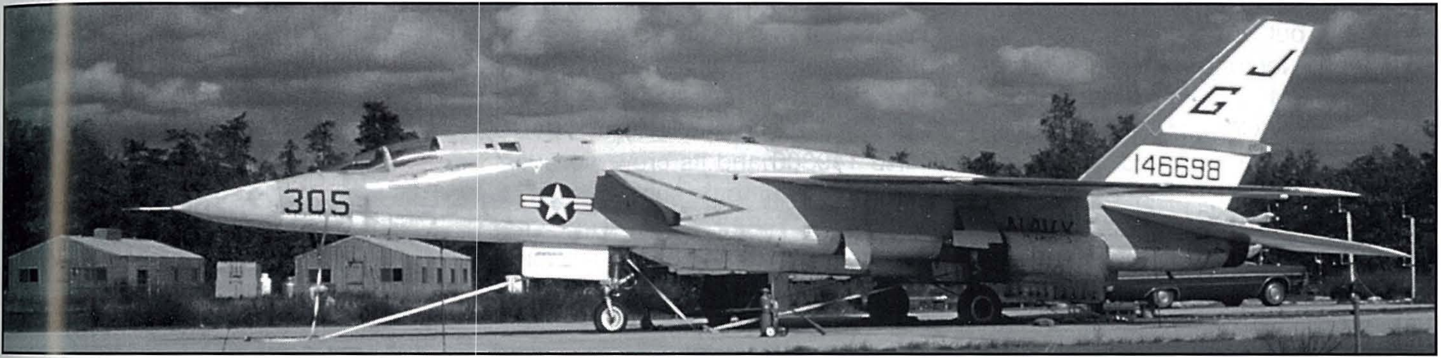
Above, BuNo 156613 at Oceana on 26 September 1976. Note bi-centennial intakes. (Ostrowski via Kaston) At right, BuNo 149289 at the Pima Air Museum, AZ, in 1997. (Ginter) Below, BuNo 146698 at NAF Lakehurst, NJ, on 12 December 1976. Tail markings were red. (Peter Foster via Kaston) Below middle, final RVAH-3 tail markings were red outlined by black as seen at NAS China Lake in 1980. (Kaston) Bottom, BuNo 156621 at NAS Pensacola, FL, on 13 October 1980. (Norm Taylor)

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146698
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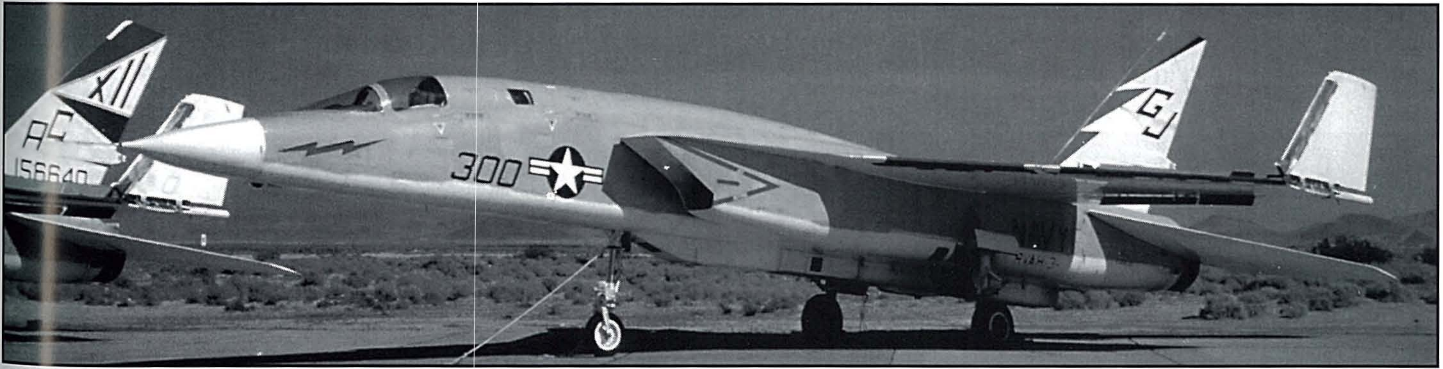
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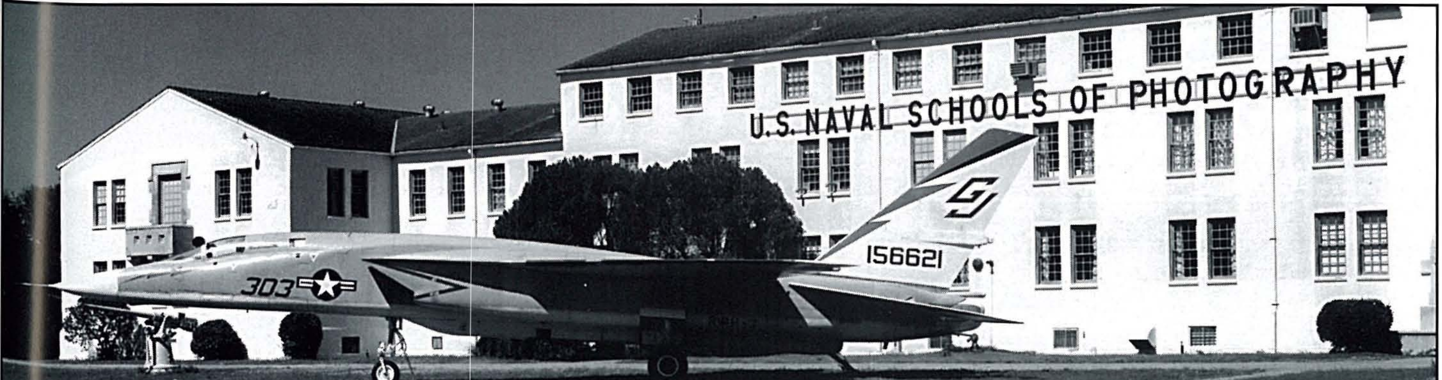
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303
156621

RVAH-5 "SAVAGE SONS"

RECONATKRON FIVE
SAVAGE SONS

VC-5 was established at NAS Moffett Field, CA, on 9 September 1948, with the mission of bringing nuclear weapon capability to the aircraft carrier. The squadron was slated to equip the large CVBs with AJ-1 Savages, but VC-5 developed the Lockheed Neptune into an interim carrier-based nuclear bomber. Twelve P2V-3Cs were utilized until the AJ-1s were received. The first Savage was received in September 1949 and six were in use by December. While equipped with AJ-2 Savages and stationed at NAS Sanford, FL, VC-5 was redesignated Heavy Attack Squadron Five (VAH-5) on 1 November 1956. The A3D-2 was received in 1957 and the AJ-2 Savages were retired in July.

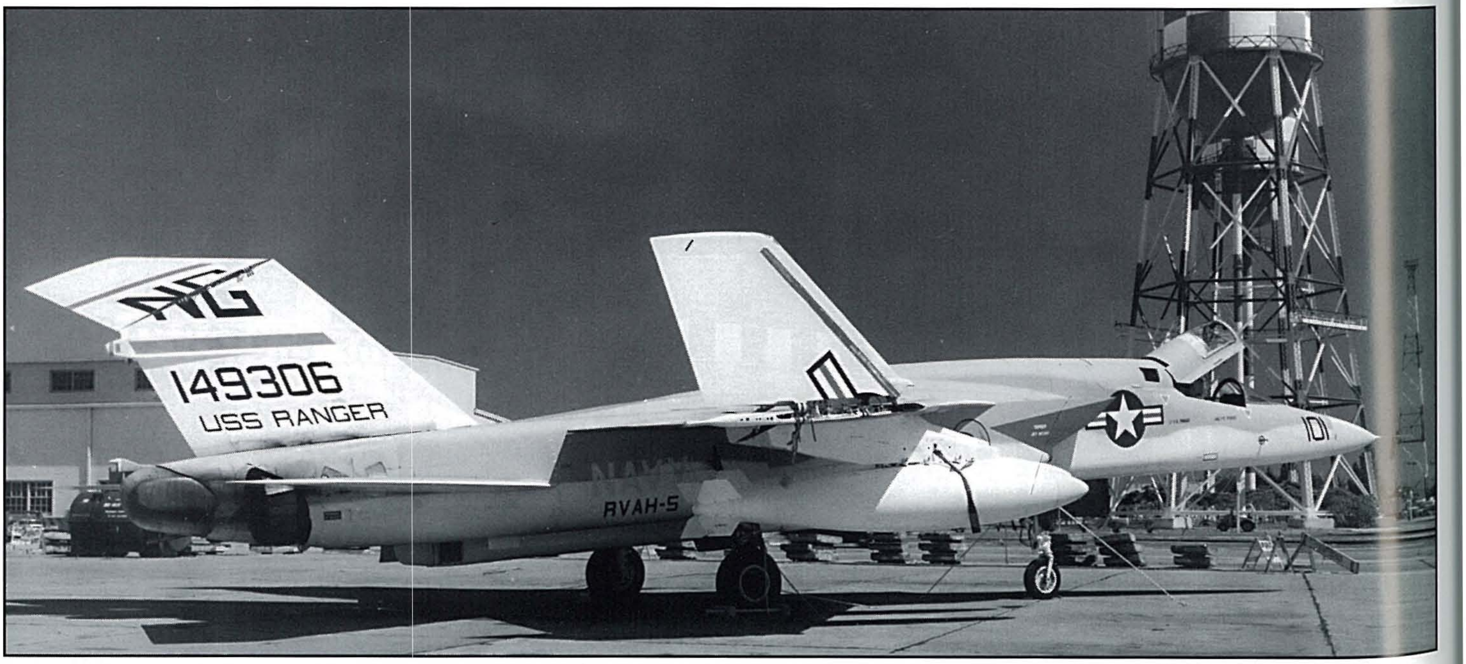
VAH-5 was redesignated RVAH-5 on 1 March 1964 when the A-3B was replaced by the North American RA-5C Vigilante. From 16 through 21 March the squadron participated in HATWING One's tenth bombing derby. This was the first time the RA-5C was flown in this event and missions were restructured for its dual roles. The unit won third place in the bombing derby and first place in the event's first reconnaissance competition.

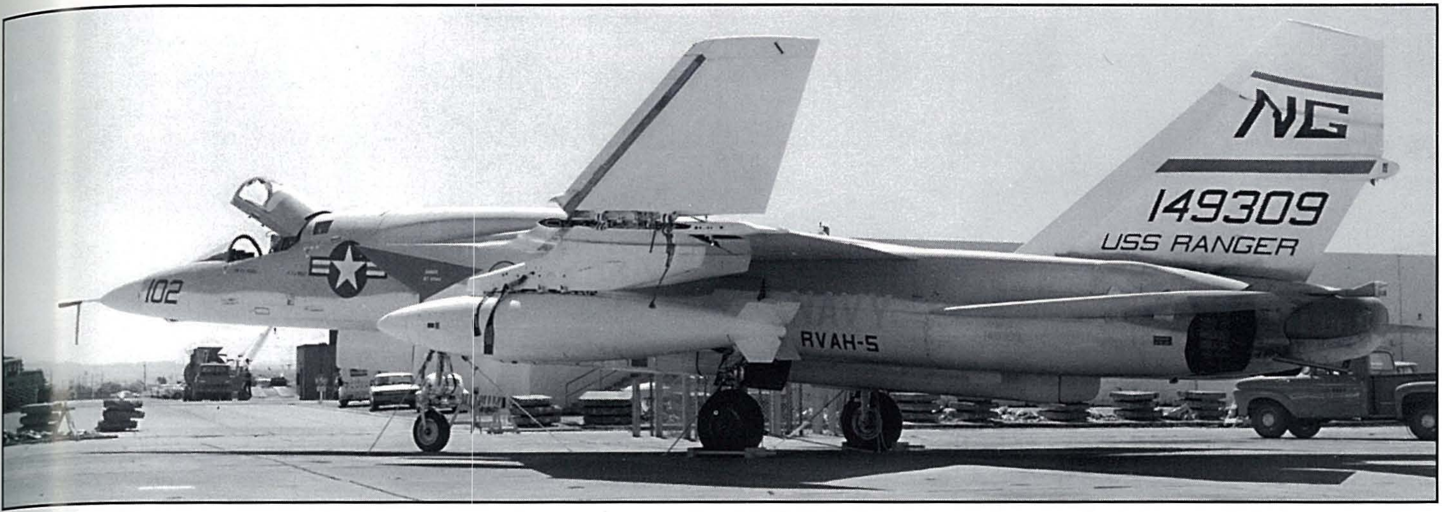
The Savage Sons were the first squadron to deploy the RA-5C and the first to deploy it to Vietnam. They were aboard the USS Ranger (CVA-61) as part of CVW-9 off the coast of Hawaii when the Tonkin Gulf incident took place. The Ranger reported for combat and since the RA-5C was yet untested, it was assigned missions in South Vietnam while the RF-8As were tasked with missions over North Vietnam. During the cruise, RA-5C BuNo 149306 and its crew were lost in an operational accident on 9 December 1964. The carrier had started its WestPac deployment on 5 August 1964 and completed it on 6 May 1965. Prior to deployment, RVAH-5 conducted carrier qualifications aboard the USS Saratoga (CVA-60) in May 1964.

CVA-66 hosted RVAH-5 on a Med cruise from 30 November 1965 through 10 July 1966 as part of CVW-6. This would be the first of two back-to-back Mediterranean deployments on America. Three Vigilantes were lost by RVAH-5 during this period. Two RA-5Cs, BuNo 150835 and 150836, were lost during work-ups aboard the America in preparation for this deployment. 836 was lost on 16 October and 835 was lost on 17 October 1965. During the cruise another Vigilante, BuNo 149285, was lost when LCDR Meyer and LTJG Waggoner ejected on 21 May 1966. The America hosted the Belgium minister on 10 January 1966, and the fleet CO's conference on 22 March 1966. In June 1966, the squadron participated in Exercise PHIBLEX off Sardinia before returning to CONUS in July.

During the second deployment aboard the USS America (CVA-66),

Below, RVAH-5 RA-5C BuNo 149306 was CO's CDR Paul Werner's aircraft for the Vigilante's first deployment. It is seen at NAS Alameda, CA, on 18 June 1964 with four 400 gallon wing tanks. Navy was painted light blue-grey. (William Swisher)

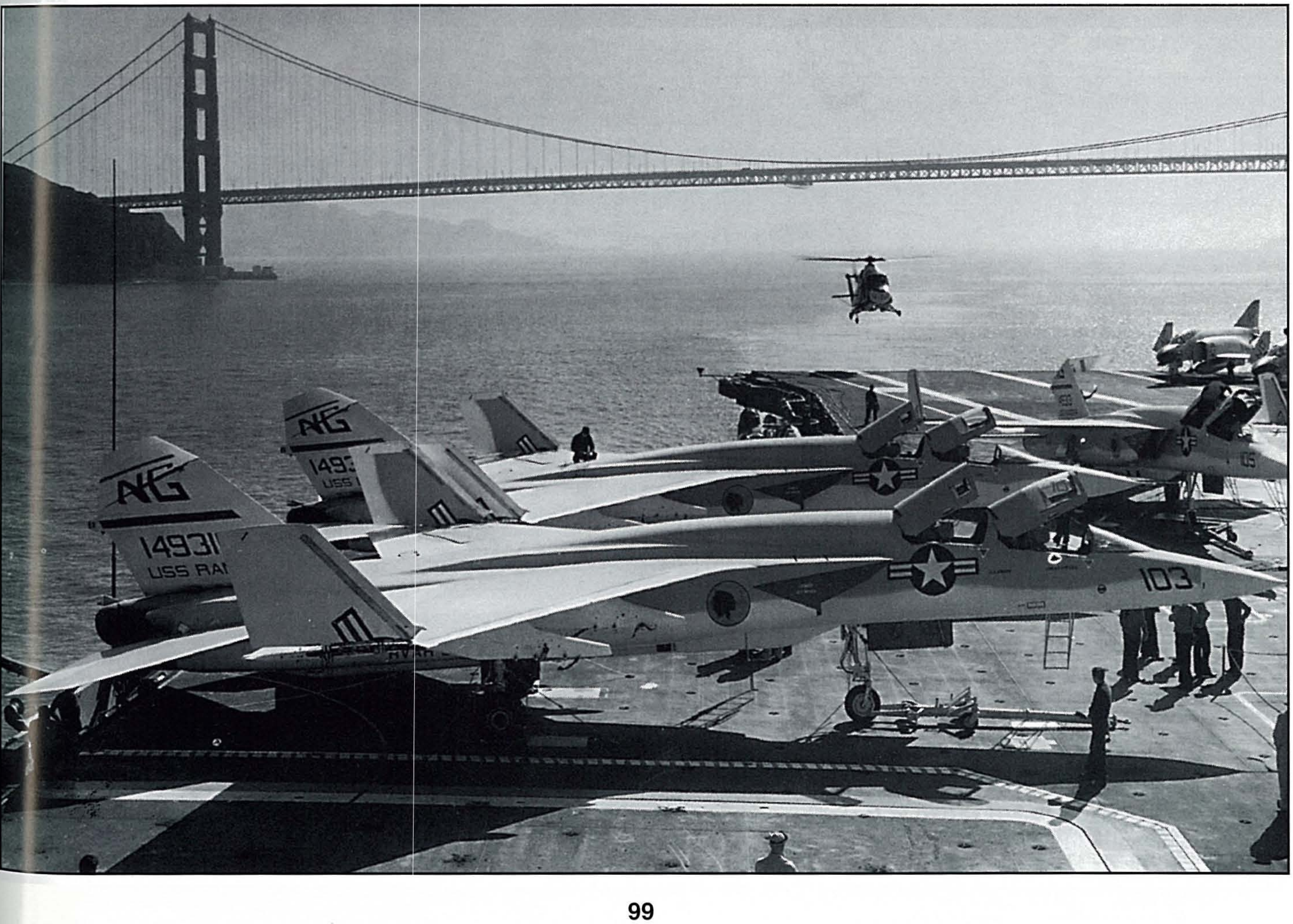


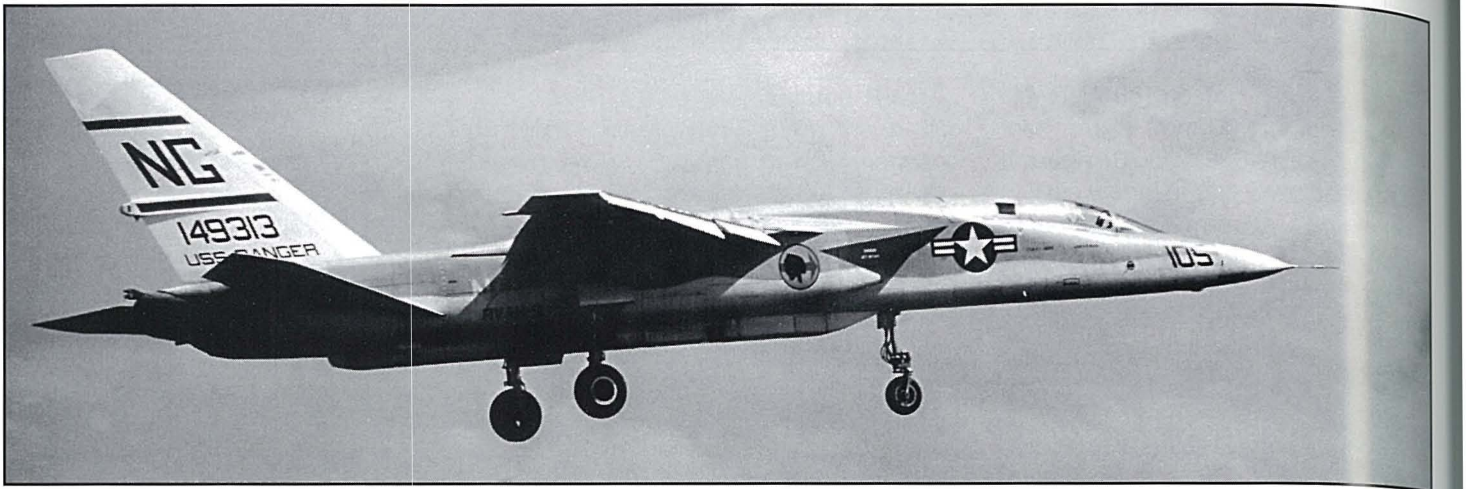


the squadron conducted its ORI on 9 November 1966. The ship was chosen for ACLS trials which took place from 5 through 24 November. On 4 February 1967, the carrier was in Athens and on 16 March it was anchored in Aranc Bay for the Fleet CO's conference. She put into Taranto, Italy, twice, on 25 March and from 1 to 8 May. The ship and Air Wing were called to duty on 8 June after the USS Liberty was attacked. Once this crisis cooled down, CVA-66 spent 29 July through 3 August at Malta, 16 through 21 August in Genoa, Italy, and 2 through 7 September in Valencia, Spain. The America returned to Norfolk on 20 September 1967.

Above, RVAH-5 RA-5C BuNo 149309 at Alameda on 18 June 1964. (William Swisher) Below, three RVAH-5 RA-5Cs on the afterdeck of the Ranger with the Golden Gate bridge in the background on 5 August 1964 as the ship heads for Hawaii. (USN)

RVAH-5 boarded the USS Constellation (CVA-64) for a combat deployment on 29 May 1968. During the cruise RVAH-5 and CVW-14

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USS RANGER
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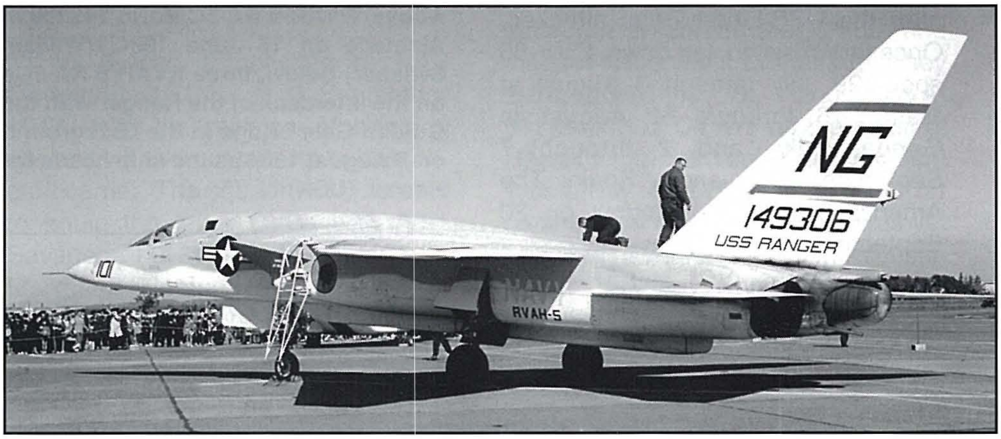
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USS RANGER
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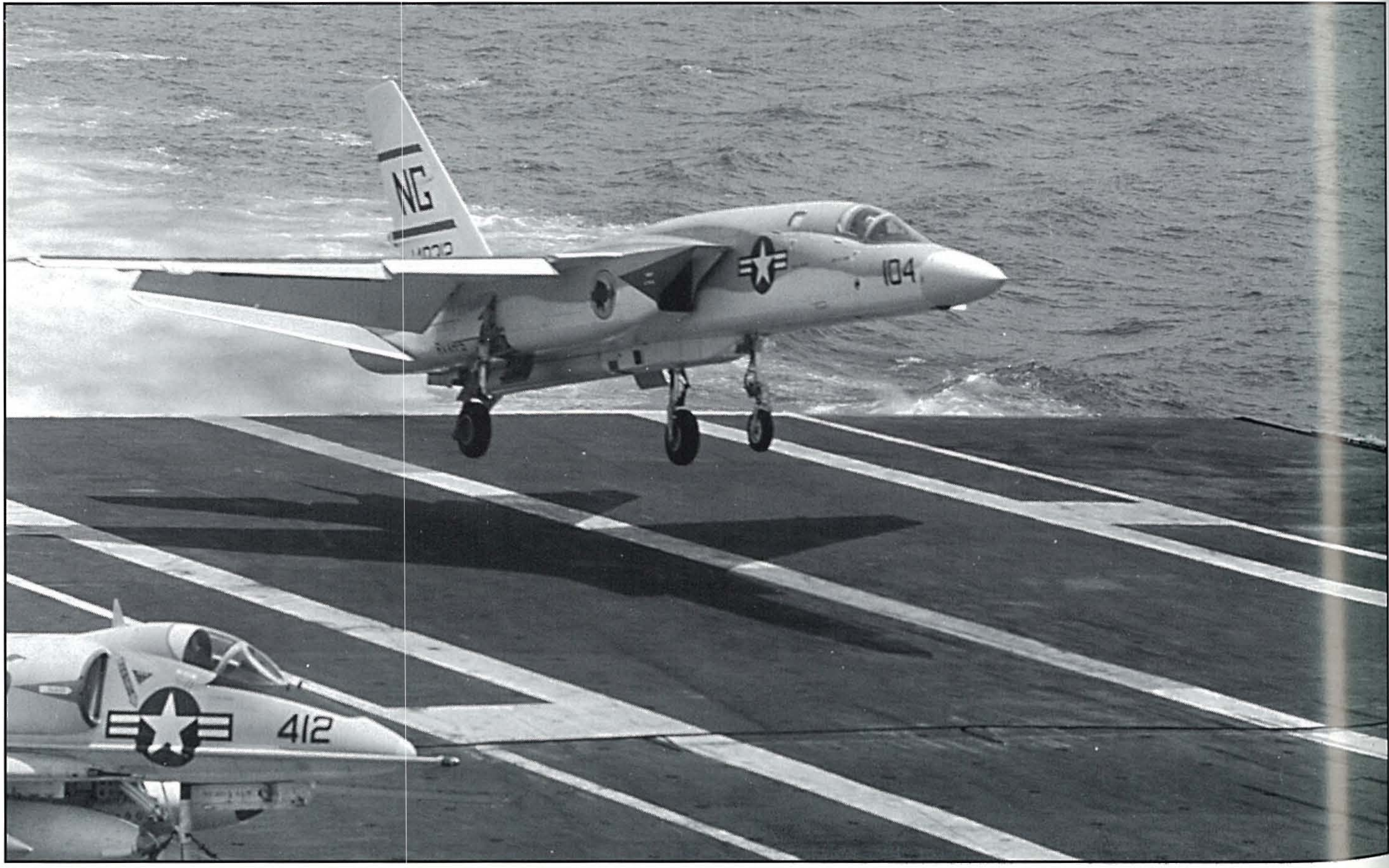
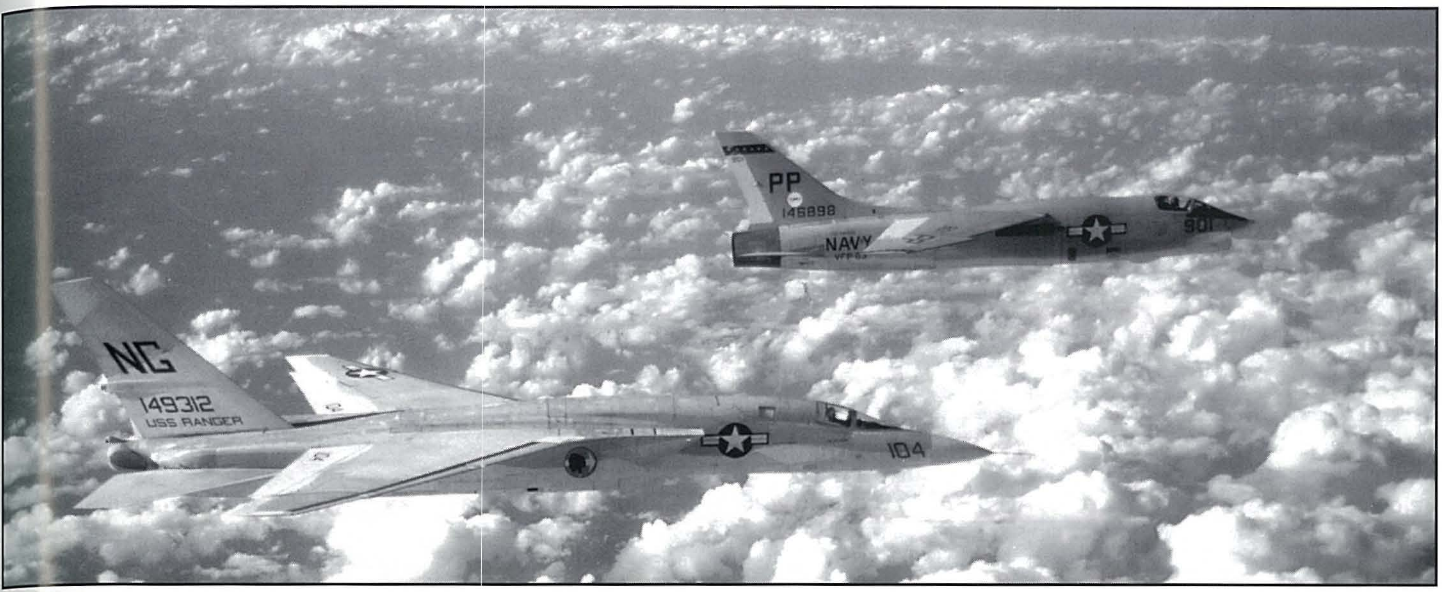
RVAH-5

RVAH-5

Above, RVAH-5 RA-5C BuNo 149313 from the USS Ranger (CVA-61) landing at NAF Atsugi, Japan, on 5 October 1964. Tail stripes were red. (Toyokazu Matsuzaki) At left, RVAH-5 RA-5C BuNo 149306 was the COs aircraft. It is seen here at Iruma AB on 3 November 1964. (Toyokazu Matsuzaki) Below, RVAH-5 RA-5C BuNo 149312 landing aboard Ranger in 1965. (MFR via F. Roos)

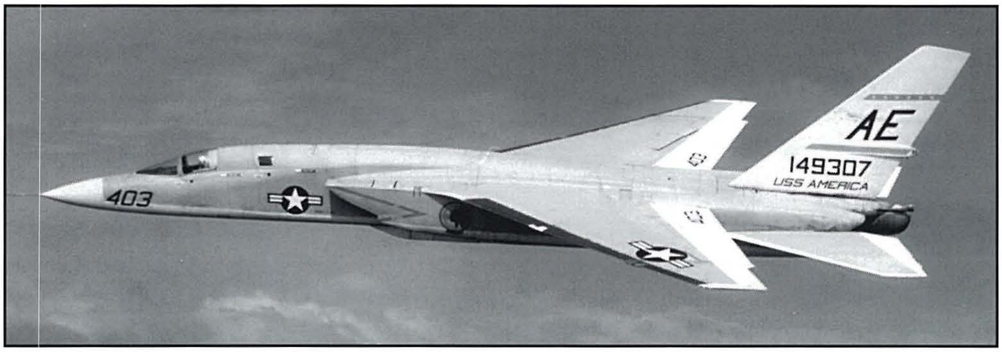


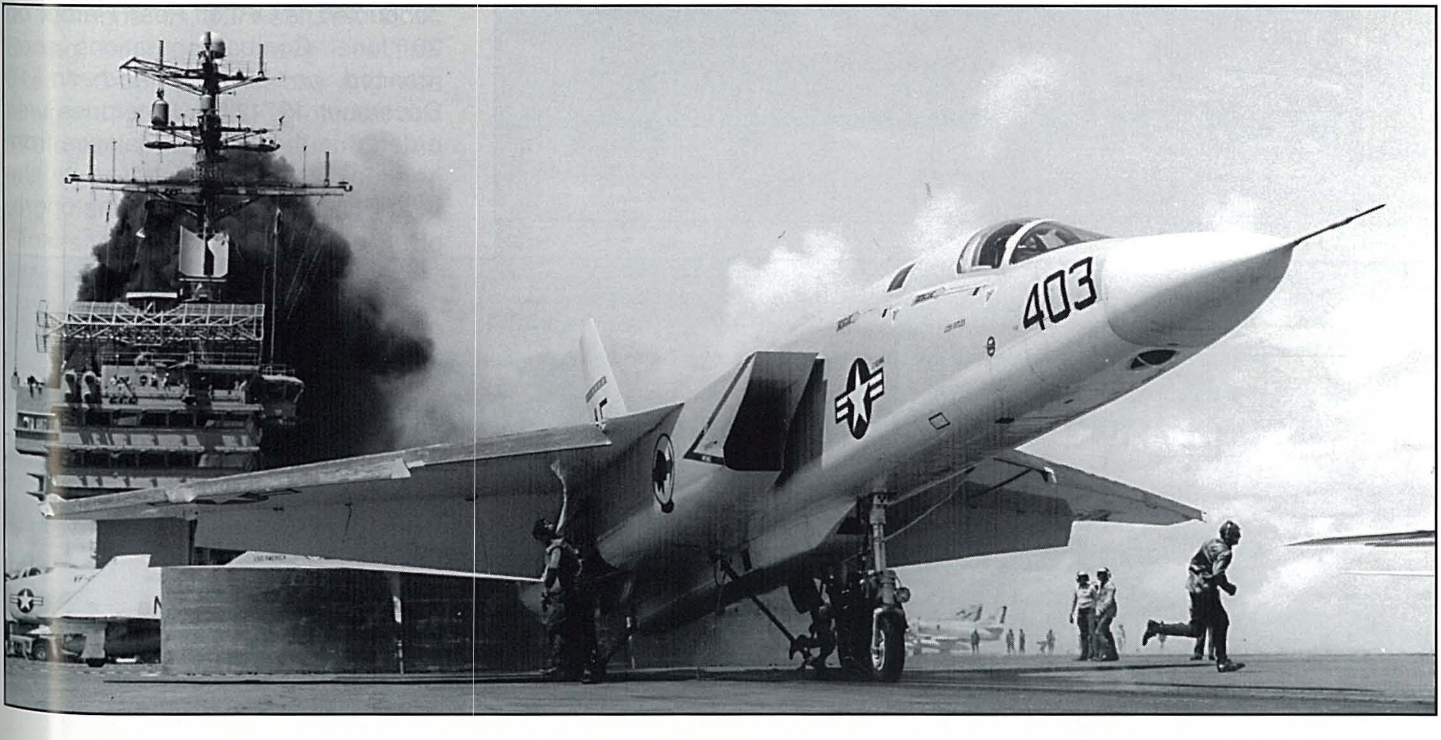


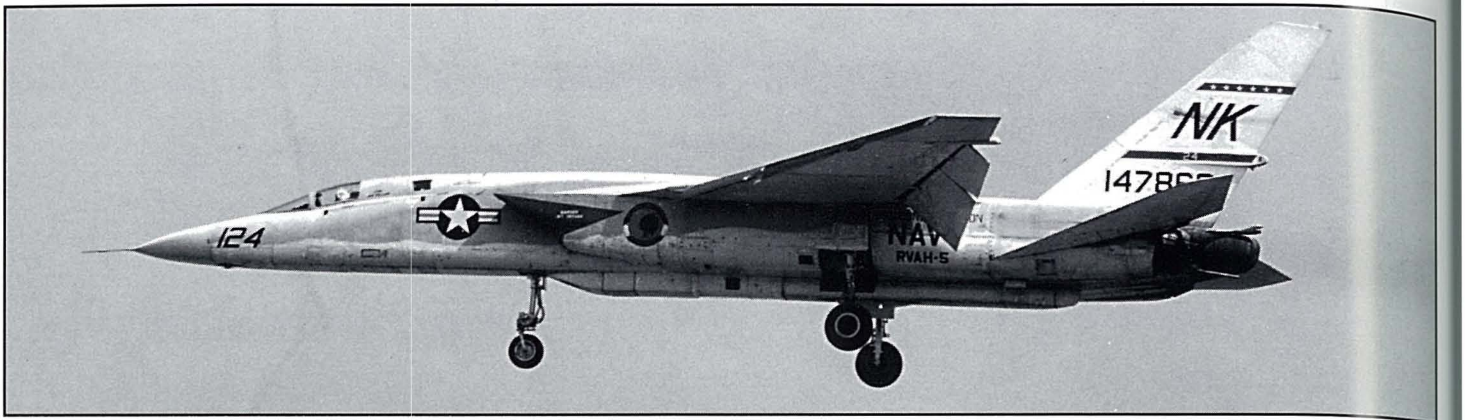
spent a total of 128 days on the line, even though a bombing halt was called by president Johnson on 1 November 1968. The ship returned to San Diego on 31 January 1969. During the cruise, RA-5C 149293 was lost over North Vietnam on 25 November 1968. The pilot, CDR E. A. Stamm, died in captivity and the RAN LTJG R. C. Thum was killed in action.

From 14 October 1969 through 1 June 1970, as part of CVW-2, RVAH-5 returned to Vietnam for its second war

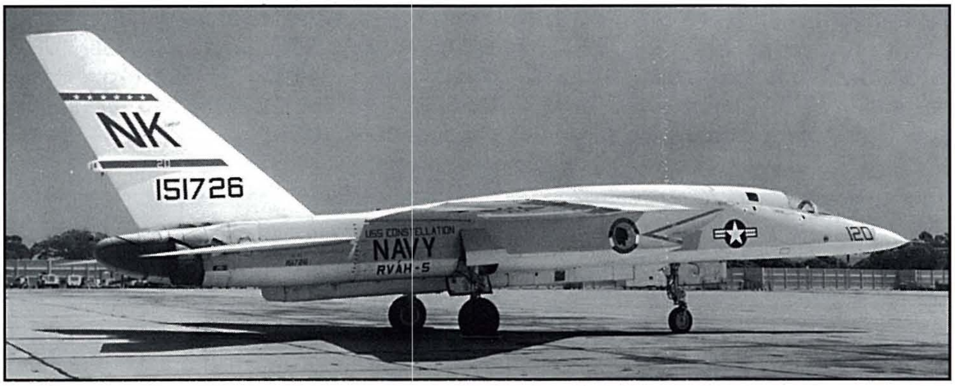
Above, Ranger-based RVAH-5 RA-5C BuNo 149312 in flight off the coast of Vietnam in escort with Ranger-based VFP-63 Det Mike RF-8A BuNo 146898 on 7 December 1964. (USN) Below, America-based RVAH-5 RA-5C BuNo 149307 in flight over the Mediterranean on 19 March 1966. (USN) Bottom, RVAH-5 RA-5C is readied for launch from the USS America during its ORI on 15 October 1965. (USN)

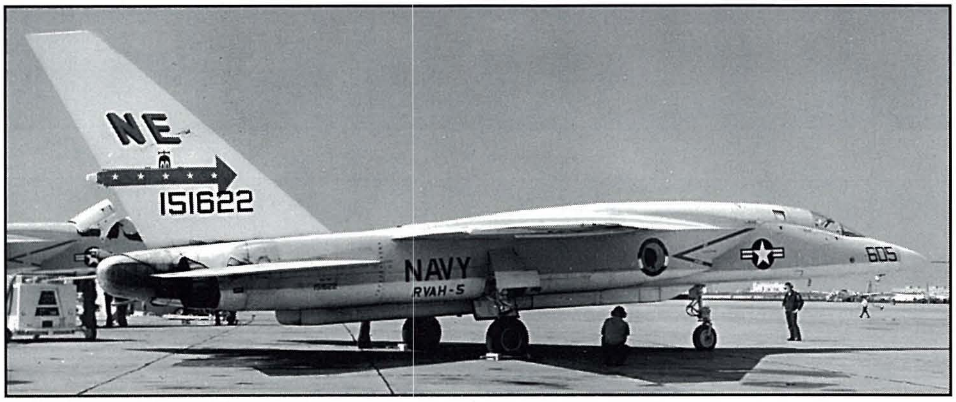






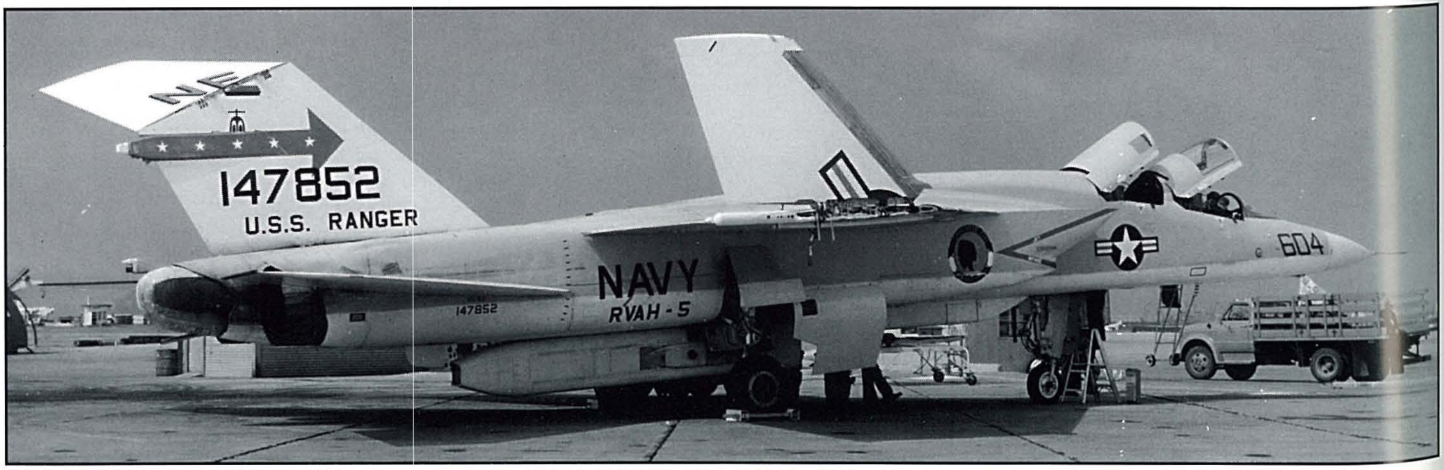
Above, Constellation-based RVAH-5 RA-5C BuNo 147862 landing at NAF Atsugi on 15 October 1968. (Toyokazu Matsuzaki) At Below, pre-deployment photo of RVAH-5 RA-5C BuNo 151726 at NAS North Island, CA, on 24 May 1968. USS Constellation and tail stripes were red. (William Swisher) Below middle, RVAH-5 RA-5C BuNo 151622 at Alameda on 10 October 1969 with "Mushmouth" peeking over the red arrow on the tail. (William Swisher) Bottom, RVAH-5 RA-5C BuNo 147852 with canoe open and wings and tail folded on 10 October 1969. "NE" was red shaded by black. (William Swisher)

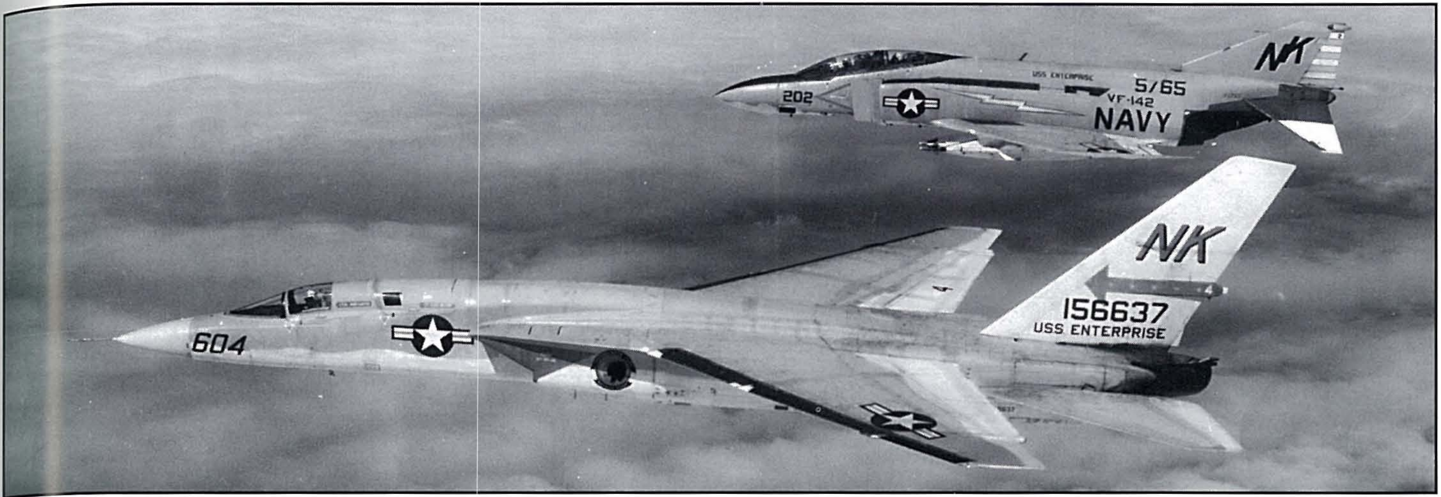




deployment aboard Ranger. The Air Wing spent 103 days on the line with Task Force 77 off Vietnam and 8 days on line with Task Force 71 off Korea in response to the USS Pueblo Crisis.

On 4 February 1971 with CVW-14 and RVAH-5 aboard, the USS Enterprise (CVAN-65) after refueling and overhaul left NS Norfolk, VA, for her homeport of Alameda, CA. She arrived at NAS North Island, CA, on 7 March and conducted refresher training until the 17th. The Enterprise sailed for Vietnam on 11 June and conducted its ORI off Pearl Harbor on 20 June. Combat operations commenced on 30 July and on 10 December 1971, the Enterprise was ordered to the strait of Malacca from Yankee Station in response to the Indo-Pakistan War. Monitoring opera-

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156637
USS ENTERPRISE

Above, Enterprise-based RVAH-5 RA-5C BuNo 156637 in flight with its escorting VF-142 Phantom armed with Sidewinders over Vietnam in 1971. (USN) At right, RVAH-5 RA-5C BuNo 156637 at NAS Alameda on 14 April 1971. (William Swisher) Below right, war weary RVAH-5 RA-5C BuNo 156632 at NAS Albany on 11 October 1973 with unusual 501 nose number. (MACD via Fred Roos) Below right, RVAH-3 RA-5C BuNo 156625 at NAS Lemoore on 16 April 1972. (William Swisher) Bottom, USS Ranger-based RVAH-5 RA-5C BuNo 156632 in flight. (USN via Fred Roos)

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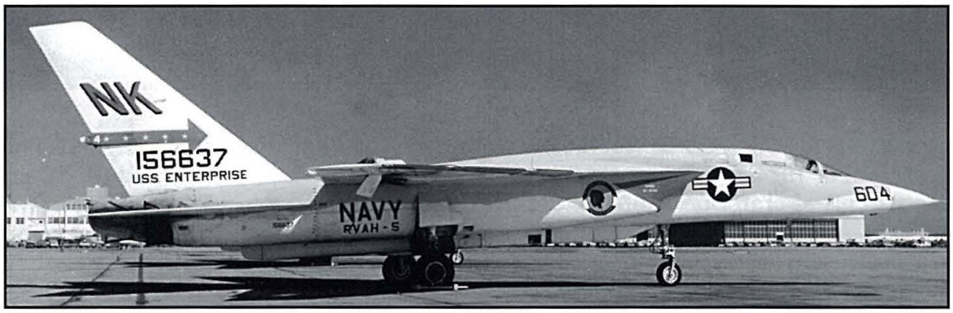
tions continued until 8 January 1972 and CVAN-65 returned to Yankee Station on 21 January. She returned to Alameda on 12 February 1972. During the cruise, Heavy Five flew over 450 combat missions and was assigned four aircraft, 19-officers and 170 enlisted men. The squadron also lost their CO, CDR Lauren Everett and their OPS Officer, LCDR Paul Stokes, on 17 October 1971 in BuNo 156634 during a routine operational mission.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RVAH-5
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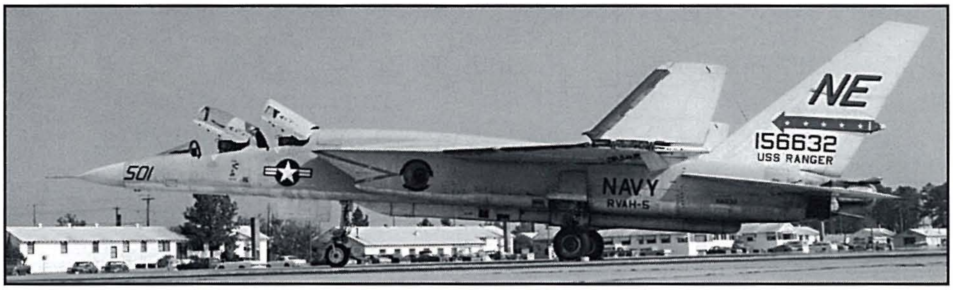
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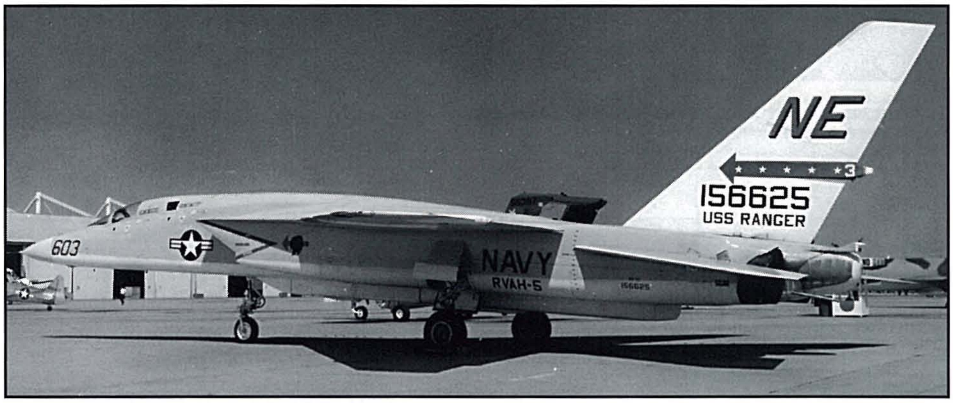
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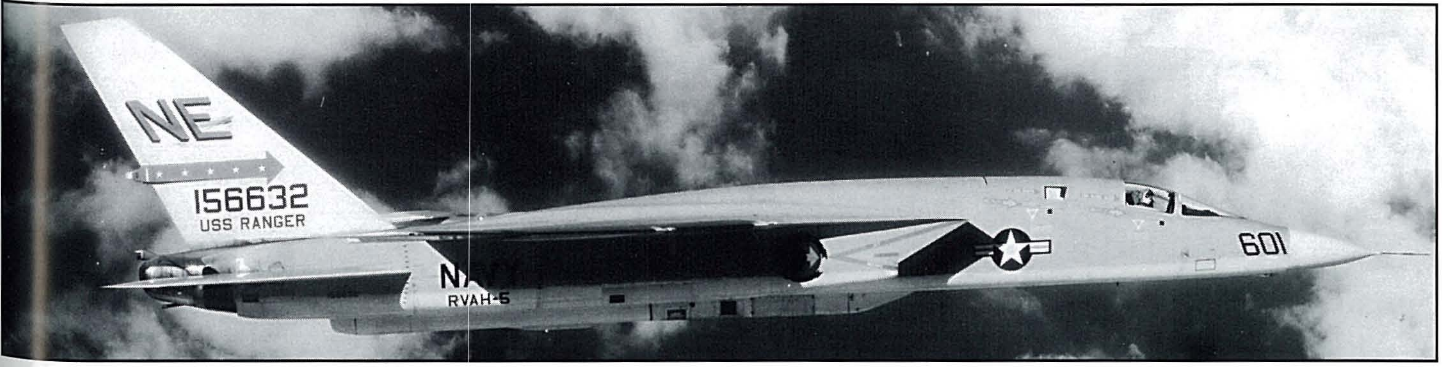
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USS RANGER
RVAH-5
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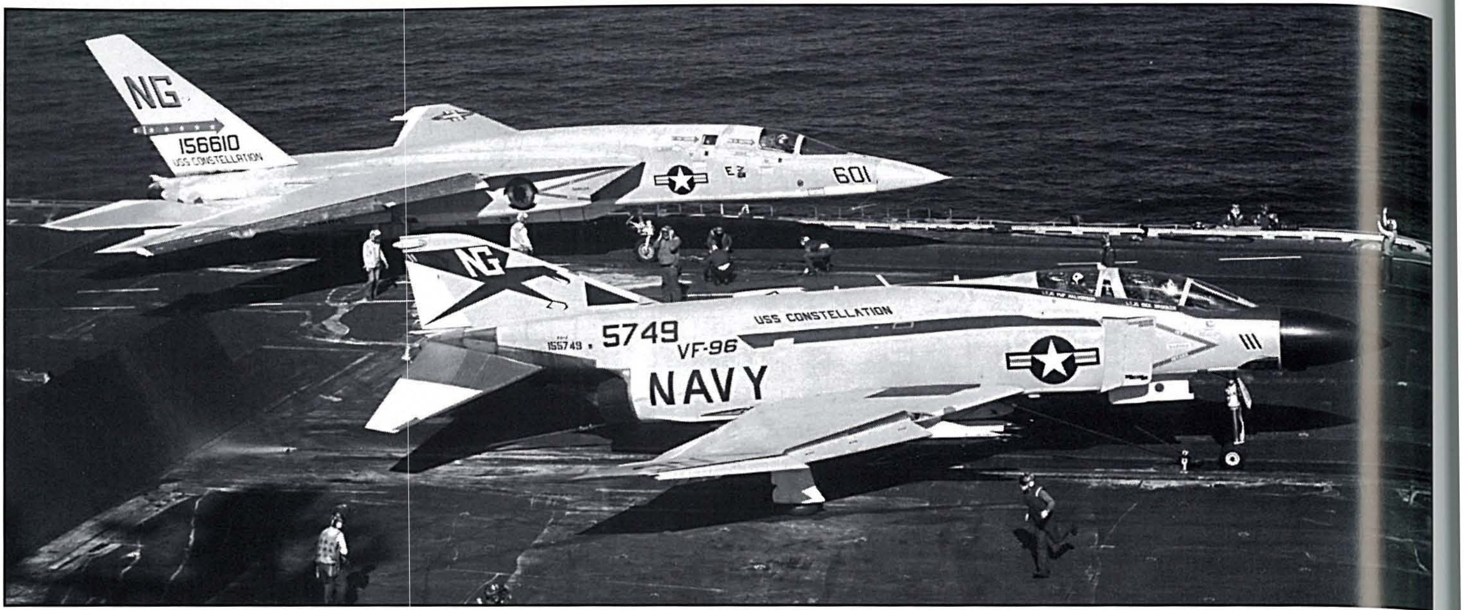
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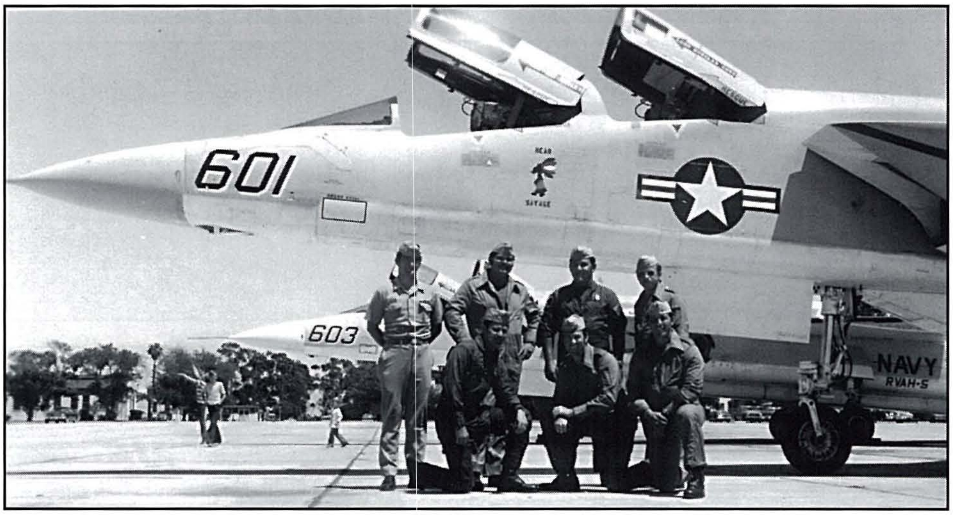
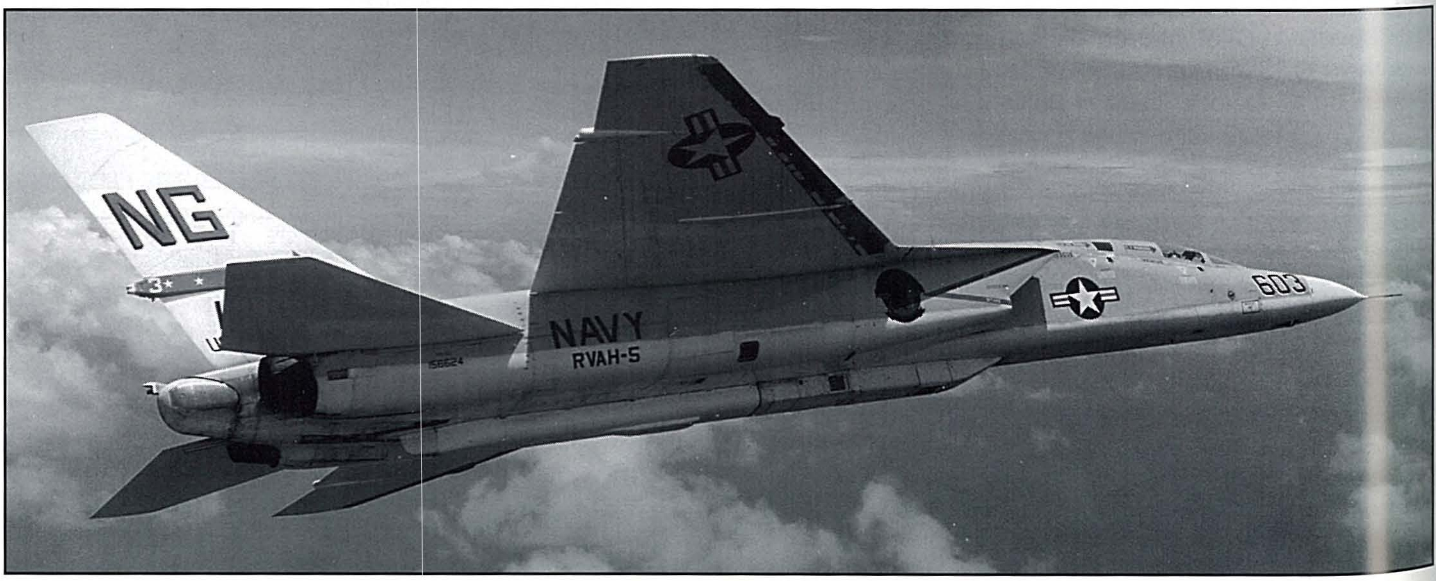
USS CONSTELLATION
NAVY

Above, RVAH-5 RA-5C BuNo 156610 taxis onto the "cat" opposite the VF-96 Phantom escort aboard the USS Constellation (CVA-64) in 1974. (via Tailhook) Below, RVAH-5 CO CDR Joe Ausley and RA-5C crews at NAS North Island on 18 June 1974 in front of his aircraft BuNo 156610. Cartoon below canopy reads "Head Savage". (William Swisher) Bottom, RVAH-5 RA-5C BuNo 156624 in flight over the South China Sea from the USS Constellation on 3 August 1974. (USN)


601
HEAD
SAVAGE
603
NAVY
RVAH-5

A third war cruise aboard Ranger and a second with CVW-2 was conducted from 16 November 1972 through 22 June 1973. On this deployment the Air Wing spent 100 days on the line.

As part of CVW-9, RVAH-5 conducted a peacetime WestPac deployment aboard the USS Constellation from 21 June through 23 December 1974. CVA-64 became the first big-deck carrier to operate in the Indian Ocean when it participated in Mid-Link 74 from 9-23 November. It was a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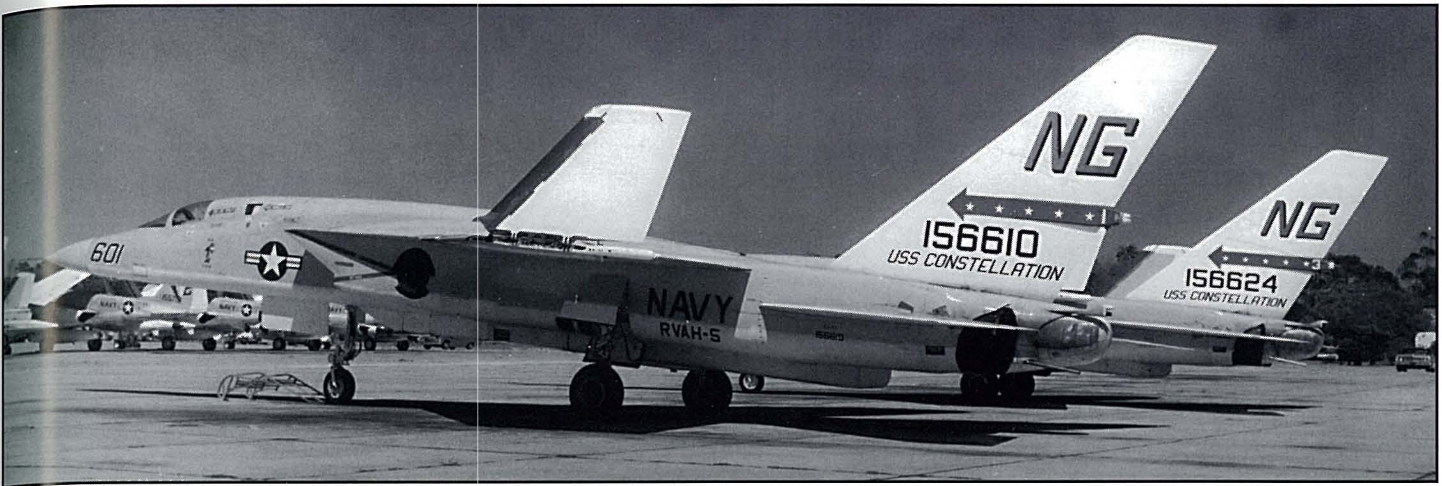
601
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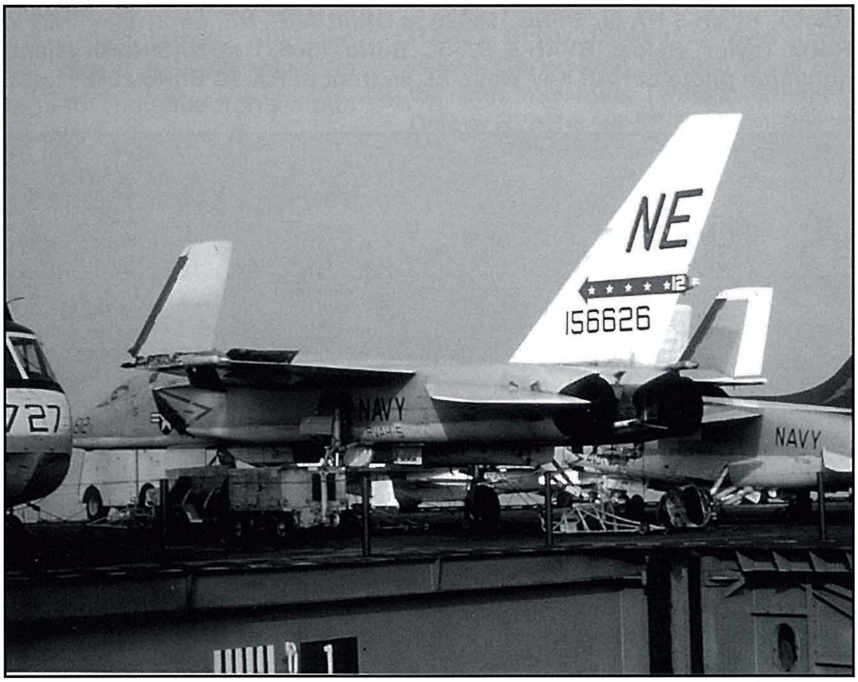
USS CONSTELLATION
NG
156624
USS CONSTELLATION
NAVY
RVAH-5

CENTO exercise with ships from the United States, United Kingdom, Iran and Pakistan. After a firepower demonstration off of Pakistan the Connie returned to San Diego on 23 December 1974.

The squadron's last deployment and fourth aboard Ranger was a WestPac cruise from 30 January through 7 September 1976. The squadron was disestablished on 30 September 1977 at NAS Key West, FL.

Above, RVAH-5 RA-5Cs BuNos 156610 and 156624 at NAS North Island, CA, on 18 June 1974. (William Swisher) At right, RVAH-5 RA-5C BuNo 156626 on the deck of the USS Ranger in January 1976. (via Kaston) Below, RVAH-5 RA-5C BuNo 156622 at NAS Key West, FL, on 11 August 1975. (R. O'Dell via Norm Taylor)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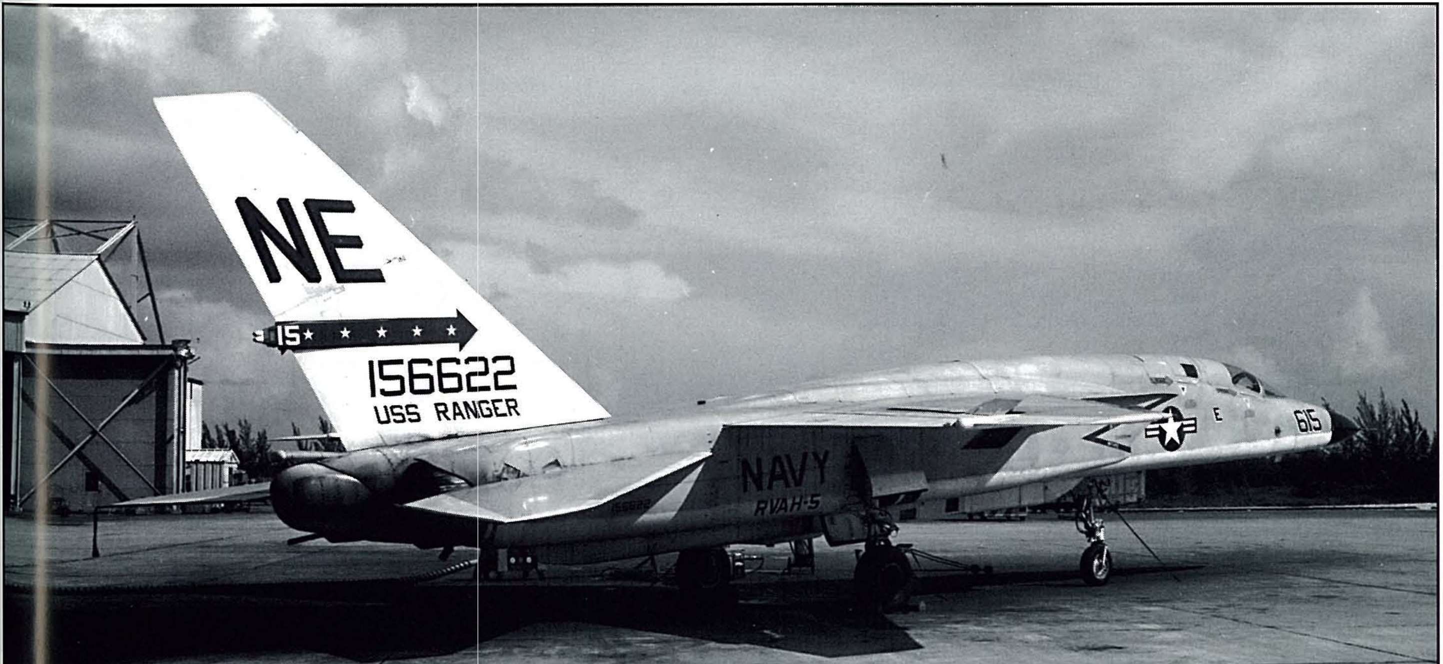
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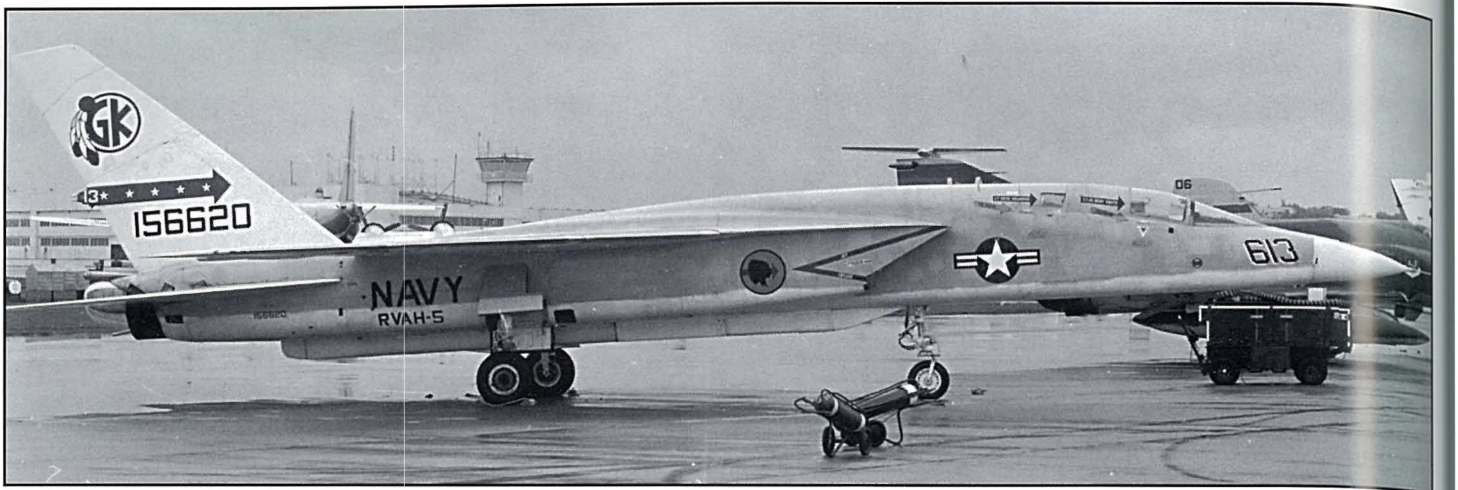
GK
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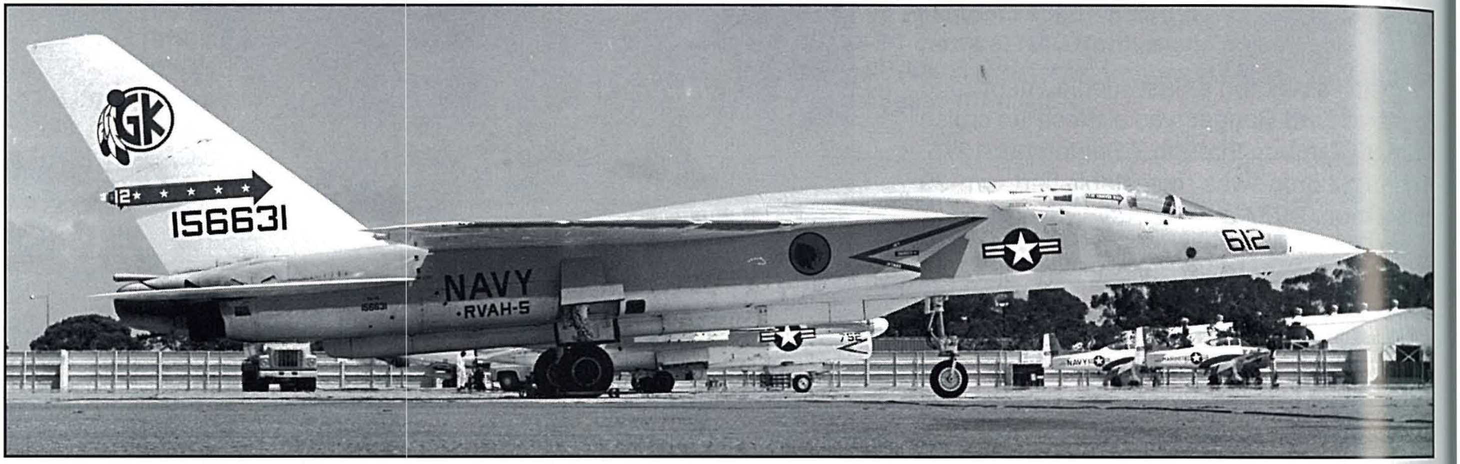
156620
NAVY
RVAH-5
613

Above, RVAH-5 RA-5C BuNo 156620 at Offutt AFB, NE, on 21 May 1977 with red squadron tail code "GK". (Clyde Gerdes via Norm Taylor) Below, RVAH-5 RA-5C BuNo 156631 at NAS North Island, CA, in January 1978. (via Kaston) Bottom, 1978 squadron photo at NAS Key West, FL, in front of RA-5C BuNo 156631. (USN)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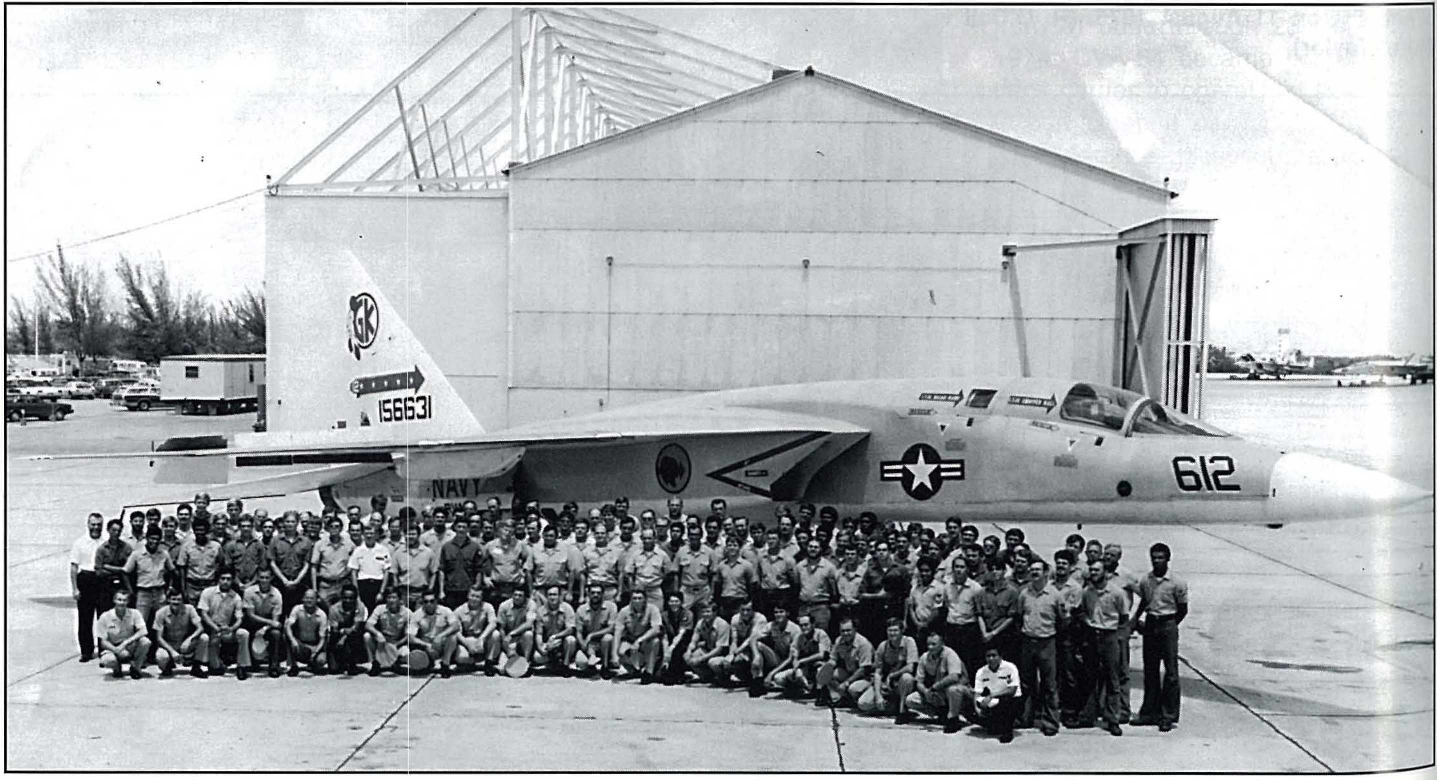
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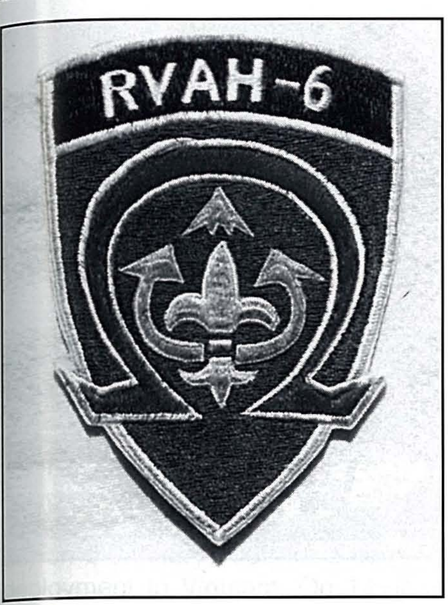
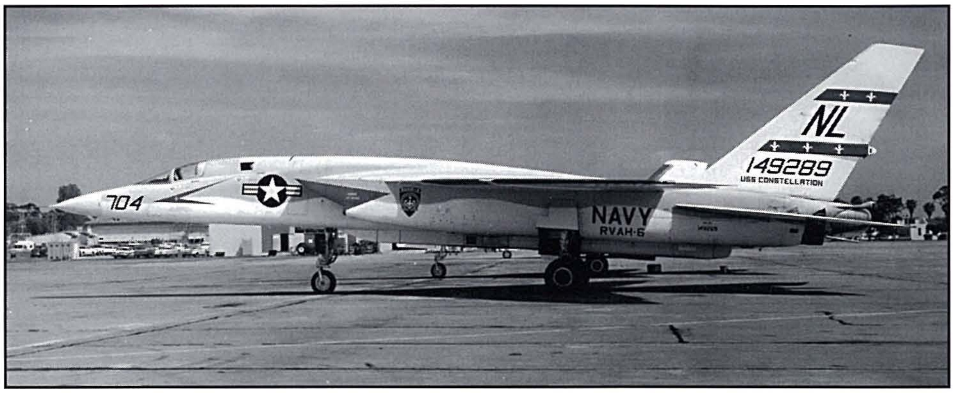
RVAH-6 "FLEURS"



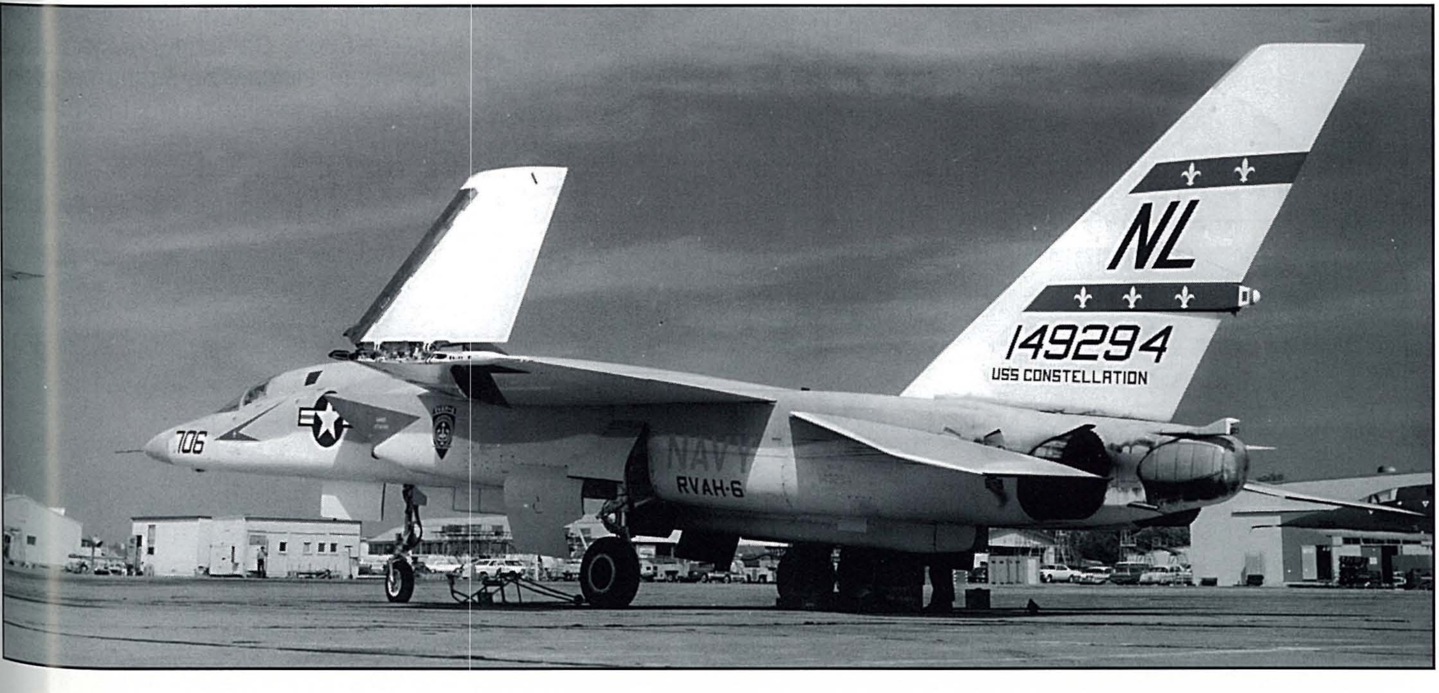


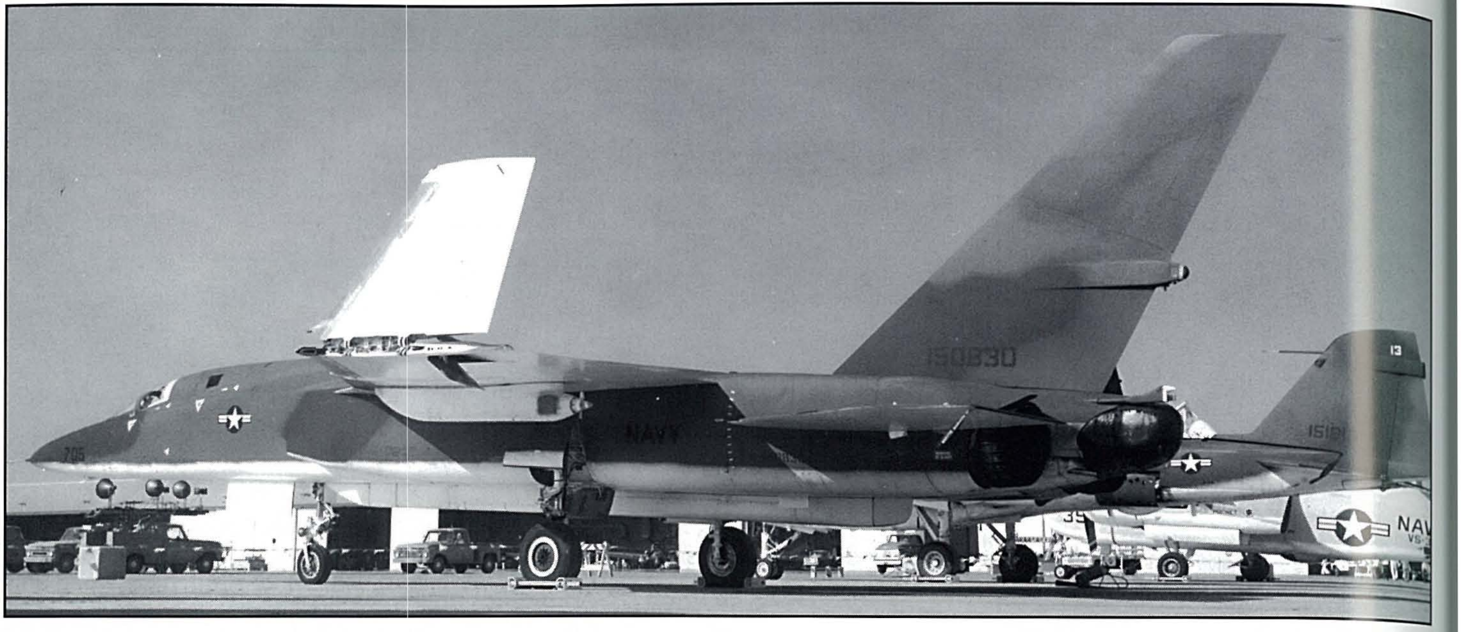
Above, Constellation-based RVAH-6 RA-5C BuNo 149289 at NAS North Island, CA, on 28 April 1966. Nose and tail trim was blue. (William Swisher) Below, RVAH-6 RA-5C BuNo 149294 at NAS North Island on 28 April 1966. Navy was painted in light blue-grey. (William Swisher)

VC-6, the second squadron formed in preparation for the new AJ Savage, was established at NAS Moffett Field, CA, on 6 January 1950. Initially equipped with P2V-2 and P2V-3C Neptunes, the squadron moved to NAS Patuxent River, MD, in late 1950 where it took delivery of its AJ-1s. With a rotating detachment at NAF Atsugi, Japan, in addition to the main body at NAS North Island, CA, VC-6 was redesignated VAH-6 on 1 July 1956.

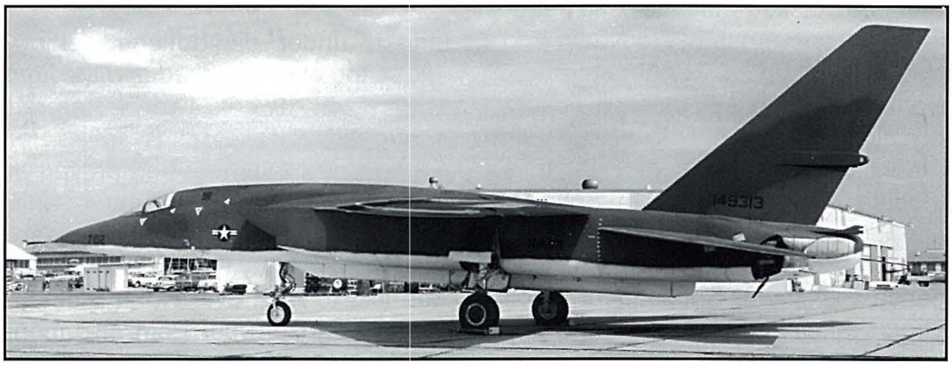
In early 1958, the Fleurs received the A3D-2 and transferred to NAS Whidbey Island, WA. The RA-5C was received on 16 September 1965 and VAH-6 was redesignated RVAH-6 on 23 September. The squadron's motto was "Speed With Accuracy".

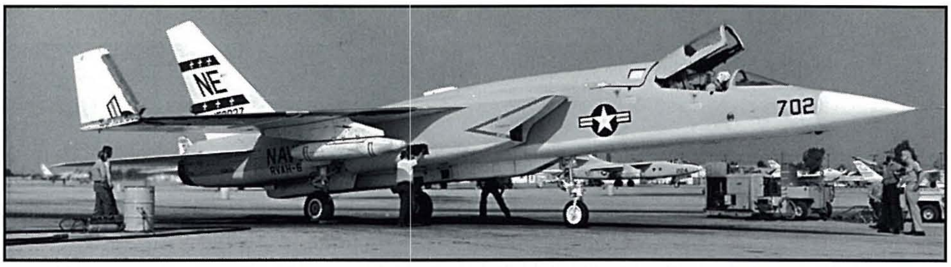
As part of CVW-15, RVAH-6 joined the USS Constellation for a combat deployment commencing on 12 May 1966. In late 1966 the Air Wing was tasked with attacking petroleum storage areas at Do Nham and Haiphong. A few days after the raids, North Vietnamese PT boats proceeded into the Gulf of Tonkin to attack American ships. BarCap Phantoms tried to destroy them with Sparrow missiles, but failed, and a flight of Intruders were dispatched to dispense with them. Subsequent recon photos taken of the islands in the Gulf revealed more small ships and boats hidden under camouflage netting. These too were attacked and the final score was twenty-two watercraft destroyed. The Connie sailed for home on 9 November and arrived at North Island on 3 December 1966 after first visiting Yokosuka, Japan. During the deployment BuNo 149309 was lost to AAA over North Vietnam on 19 August 1966. Both crewmen, LCDR J. K. Thompson and LTJG G.





Above, RVAH-6 RA-5C BuNo 150830 on 28 April 1966 was one of the Air Wing's aircraft used for testing South East Asia camouflage on carrier aircraft. Undersides remained white and the nose number, Navy, and BuNo were dark grey. (William Swisher) Below, RVAH-6 RA-5C BuNo 149313 at North Island on 28 April 1966. (William Swisher) Below middle, Ranger-based RVAH-6 RA-5C BuNo 150837 at NAS Sanford, FL, on 26 May 1967. Tail stripes were black. (William Swisher) Bottom, RVAH-6 RA-5Cs BuNos 149297 and 150837 at NAS Alameda, CA, on 1 November 1967. Pilot was CDR Bill Thompson. (W. Swisher)

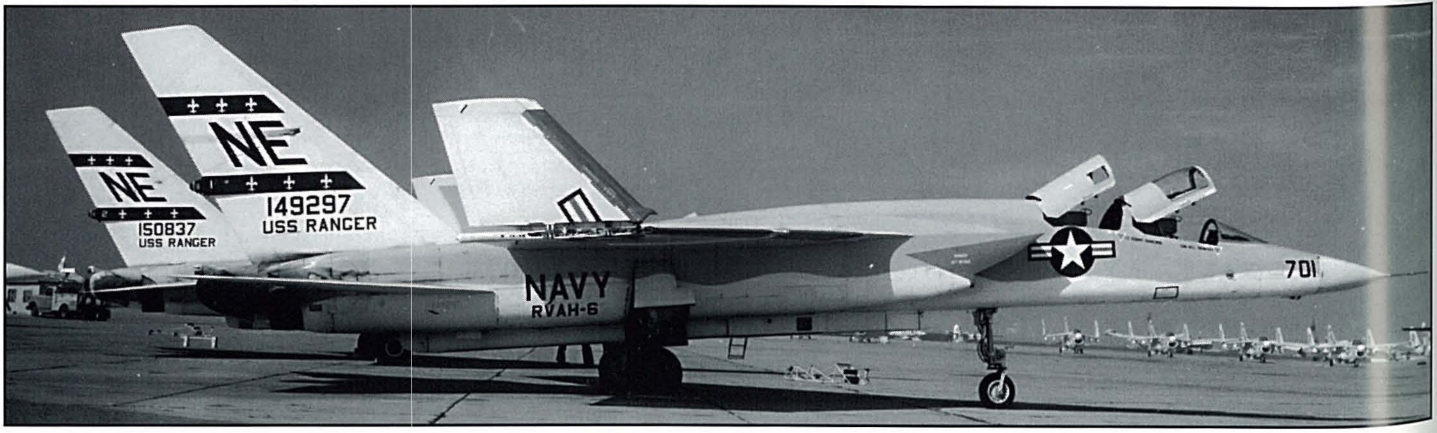


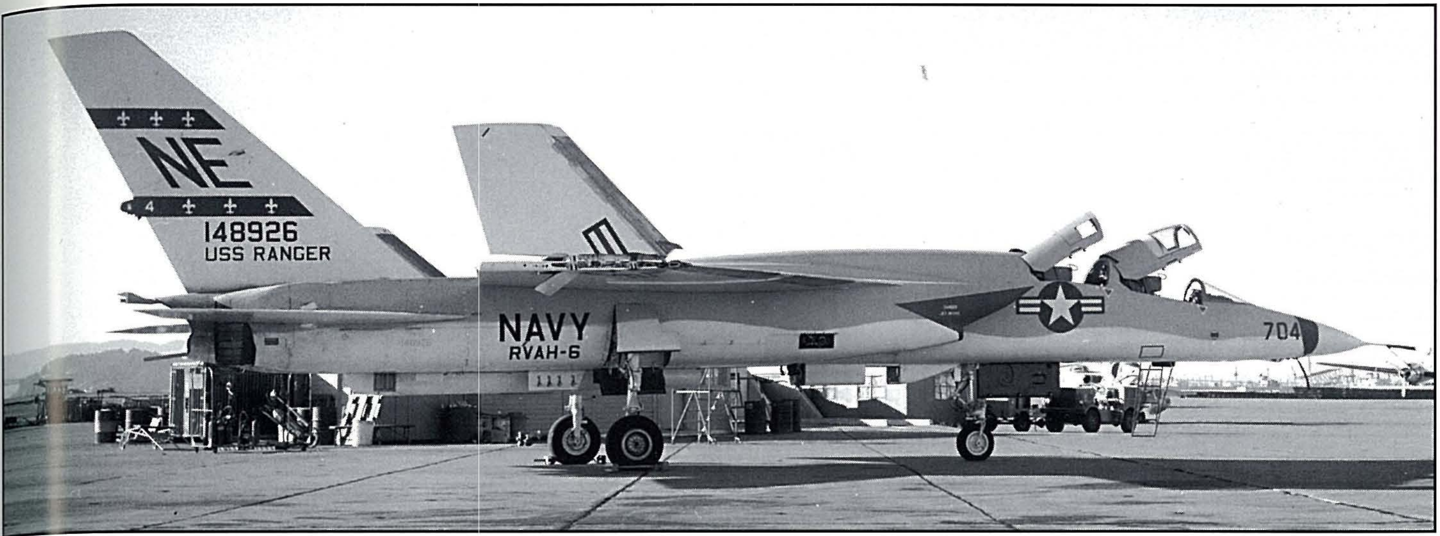


L. Parten, were recovered. A second Vigi, BuNo 150030, was lost to a SAM on 22 October 1966. Both crewmen, LCDR T. C. Kolstad and LTJG W. B. Klenert, were killed in action.

The squadron's second combat cruise was aboard the USS Ranger (CVA-61) from 4 November 1967 through 25 May 1968 as part of CVW-2. On their mission of 16 December, the CO, CDR C. C. Smith and his RAN LT John Calhoun, photographed the Hanoi Hilton. The squadron spent 88 days on the line during this deployment.

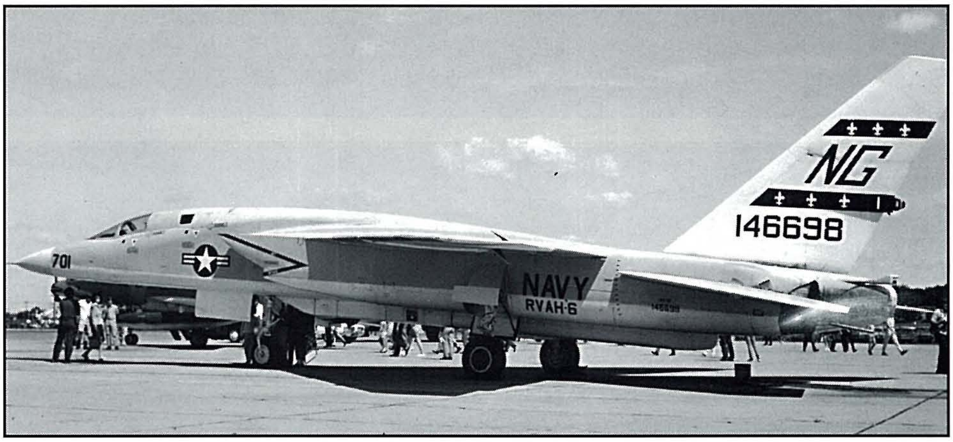
RVAH-6 joined CVW-9 and

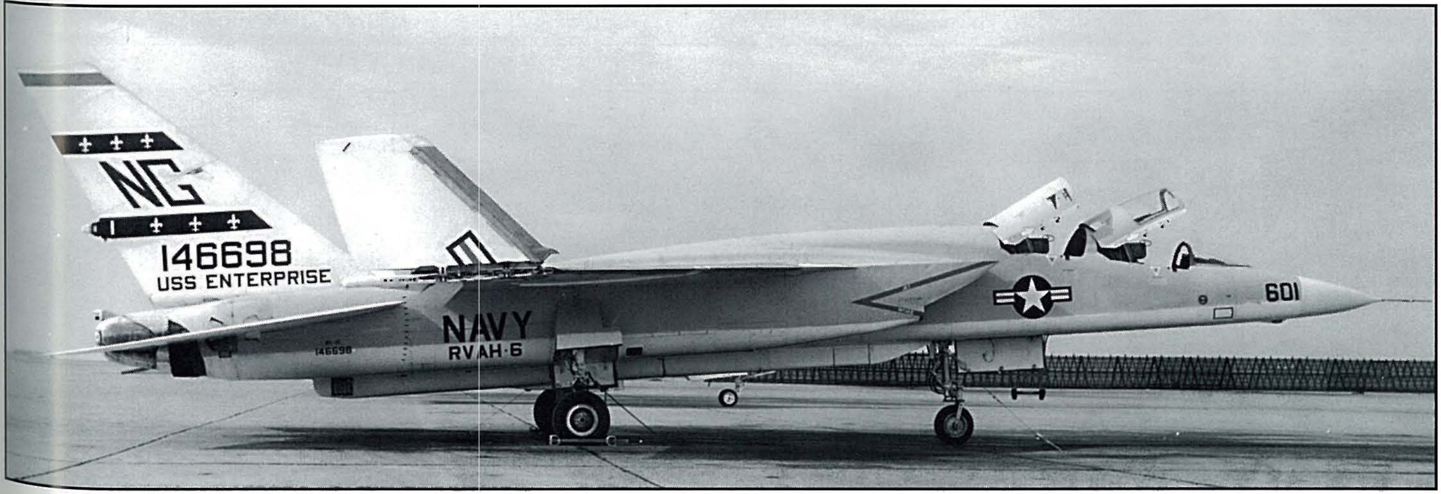


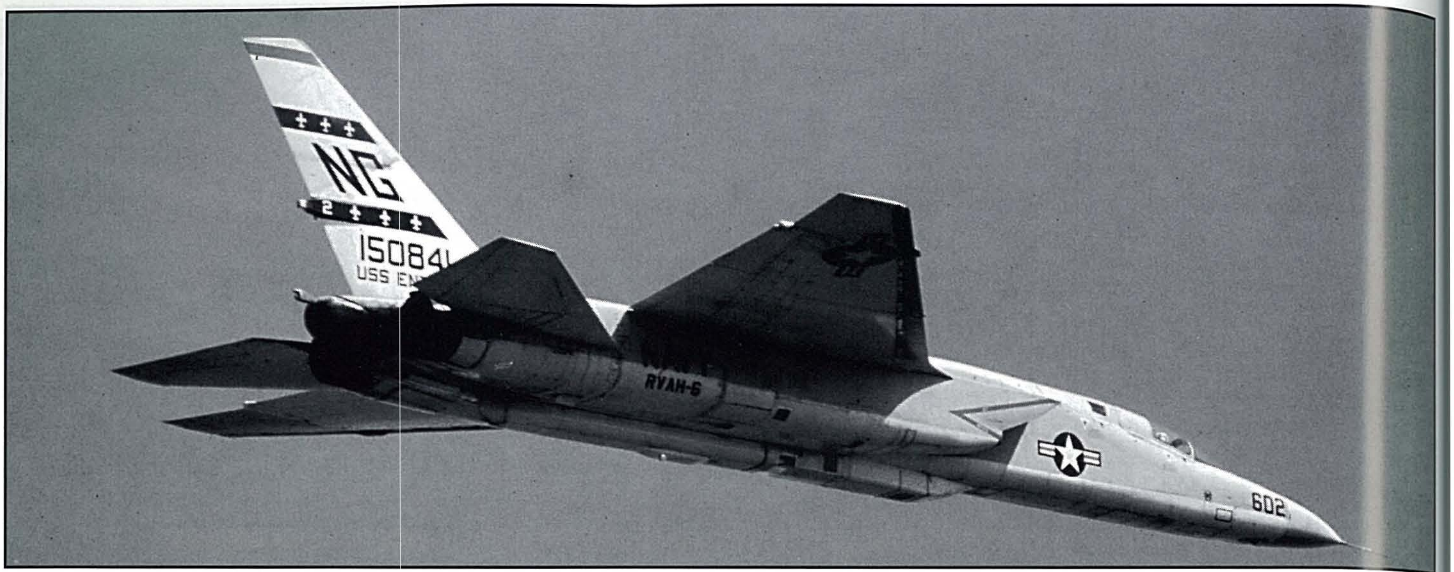


boarded the USS Enterprise (CVAN-65) on 6 January 1969 for a combat deployment to Vietnam. On 14 January, during the pre-combat ORI, a Zuni rocket on a VF-96 F-4J exploded, which caused an extensive fire and numerous explosions and eventually 28 fatalities. Even though fifteen aircraft were destroyed and the flight deck was holed in numerous places, the ship was repaired at Pearl Harbor and sailed on 5 March for four days of sea trials and flight ops. She sailed for Yankee Station on 11 March and arrived on the 30th. The following day, RVAH-6 lost 150842 over Laos. This would be the ship's only combat loss during the deployment. On 16 April, she joined the Ranger, Ticonderoga, and Hornet on Defender Station after North Korea shot down a VQ-1 EC-121. She remained on station until 12 May when she was relieved by Kitty Hawk. During the time on Defender Station, RVAH-6 flew numerous recon flights to monitor the North Koreans. The Enterprise returned to CONUS on 2

Above, RVAH-6 RA-5C BuNo 148926 at Alameda on 28 October 1967. Aircraft sits high on its gear as the tail cone, interior fuel cans, and the second and fourth sensor stations were removed. (Steve Kraus via Norm Taylor) Right, RVAH-6 RA-5C BuNo 146698 at Milwaukee, WI, on 28 July 1968. The aircraft carried the Enterprise's "NG" tail code but carries the 700 series modex of the former Ranger cruise. (Paul Stevens) Bottom, RVAH-6 RA-5C BuNo 146698 at Alameda on 2 January 1969. Tail stripes were dark blue and fin tip stripe was red. (William Swisher)







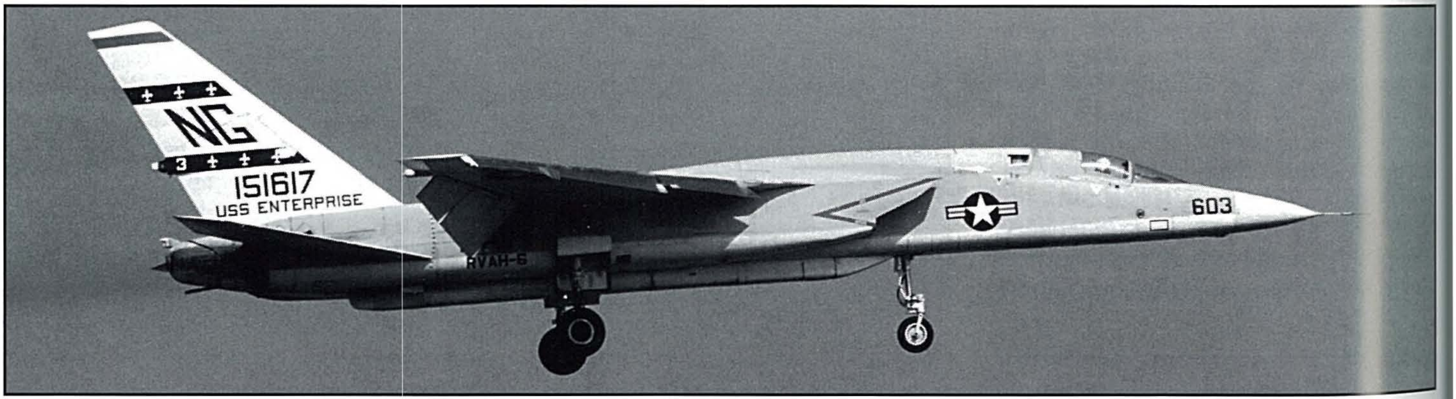
July 1969.

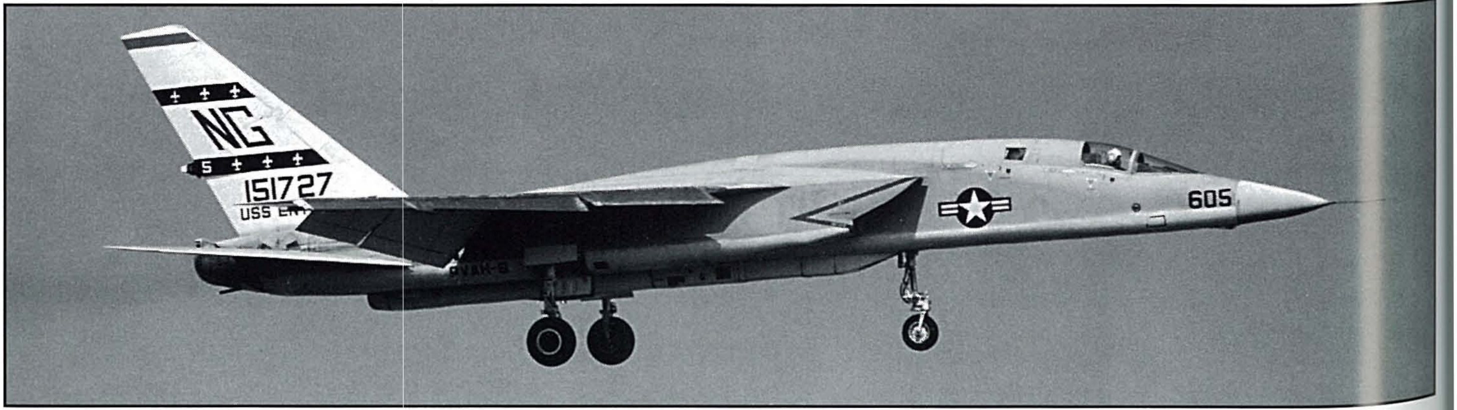
The Fleurs joined CVW-11 aboard the USS Kitty Hawk (CVA-63) from 6 November 1970 through 17 July 1971 for a combat cruise to Vietnam. The squadron spent 138 days on the line during this deployment.

In December 1971, Heavy Six was tasked with daily recon of Mt. Soufriere on St. Vincent Island. The RA-5Cs sortied out of Rosie Roads for three weeks until the possible geological disaster abated.

The squadron returned to Vietnam as part of CVW-8 from 5 June 1972 through 24 March 1973, this time aboard the USS America (CVA-66). During this cruise, the squadron spent 158 days on the line. During the deployment the squadron CO, CDR Jim Thompson and his RAN, LT Emy Conrad,

Above, Enterprise-based RVAH-6 RA-5C BuNo 150841 departing NAF Atsugi, Japan, on 26 April 1969. (T. Matsuzaki) Below, RVAH-6 RA-5C BuNo 151617 landing at Atsugi on 26 April 1969. (T. Matsuzaki) Bottom, RVAH-6 RA-5C BuNo 151727 landing at Atsugi on 26 April 1969. (Toyokazu Matsuzaki) At right top, Kitty Hawk-based BuNos 156625 and 156624 in flight in 1970. Tail markings were black.(USN via Fred Roos) At right, BuNo 156627 at NAS Miramar on 3 October 1970. (Swisher) At right bottom, BuNo 156625 traps aboard CVA-63 in 1970. (USN via Barry Miller)





NH
156625
USS KITTY HAWK
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NH
156624
USS KITTYHAWK
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NAVY
RVAH-6
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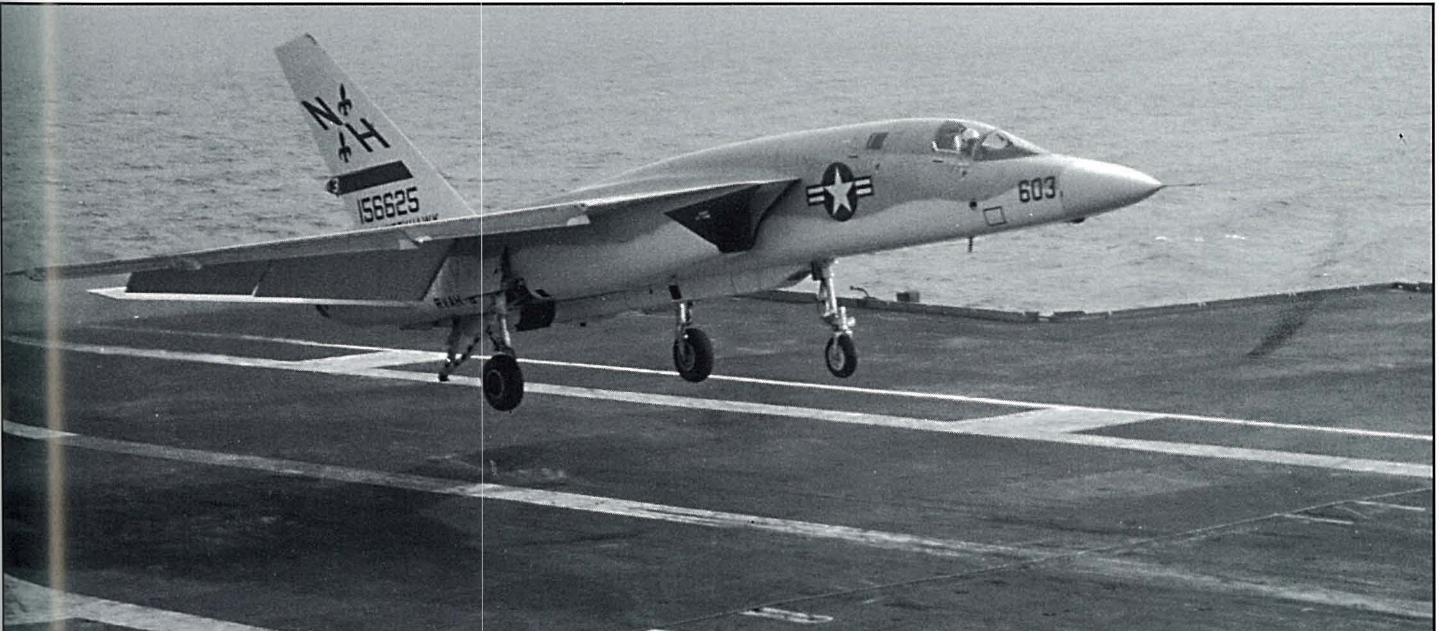

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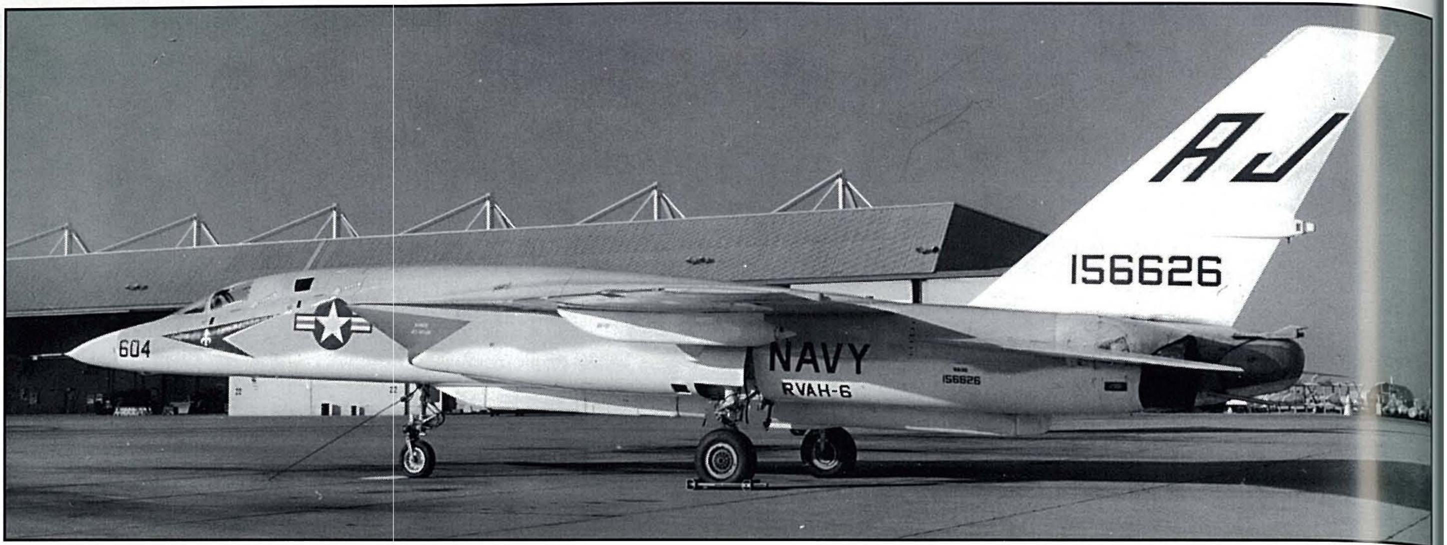
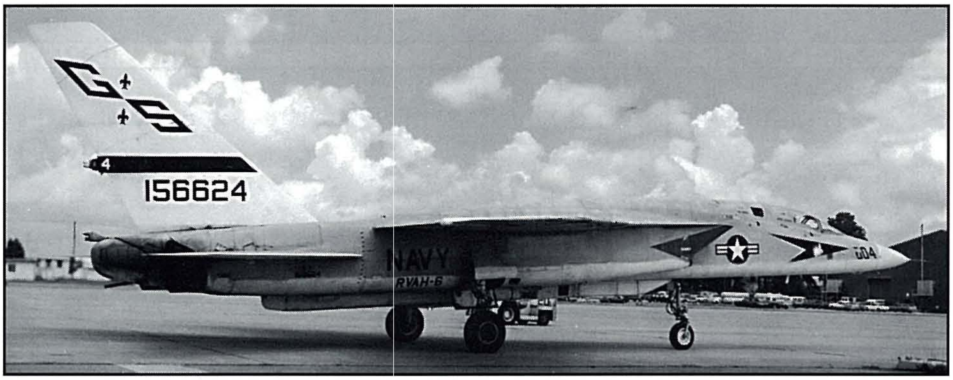
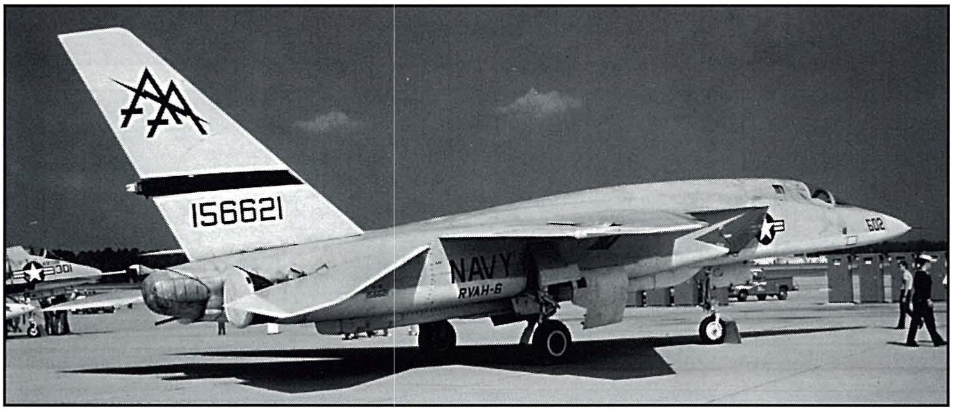


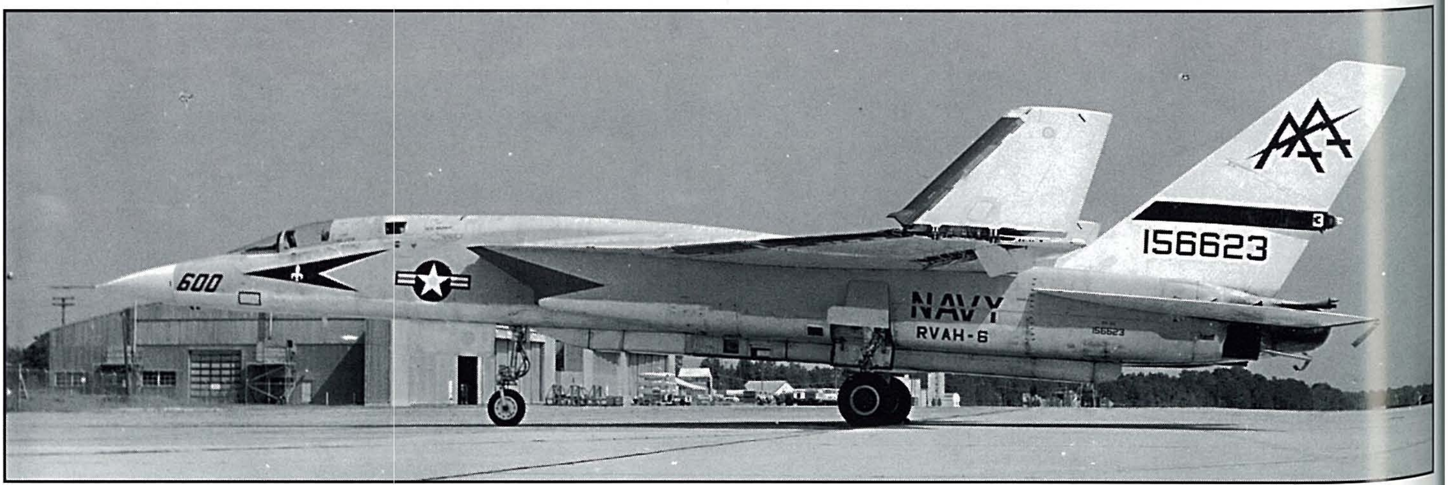


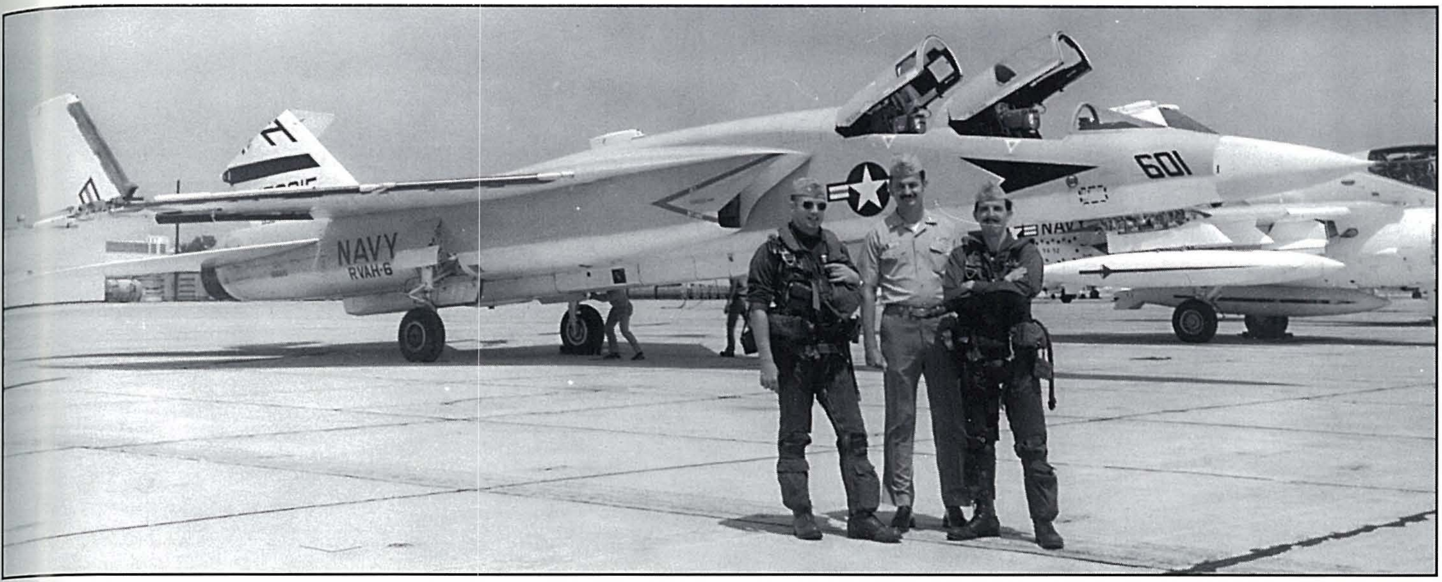
Above, America-based RVAH-6 RA-5C BuNo 156626 at NAS Lemoore on 10 October 1971. (William Swisher) At left, RVAH-6 BuNo 156624 at NAS Albany with the squadron's "GS" tail code. (William Swisher) Below left, Forrestal-based RVAH-6 BuNo 156621 in 1973. (Menard) Bottom, BuNo 156623 in 1973. (Fred Roos)



were instrumental in rescuing the crew of their escorting Phantom from VMFA-333 who were shot down over water by an 85mm shell. During the cruise, the squadron produced 563,422 feet of film for interpretation by the IOIC.

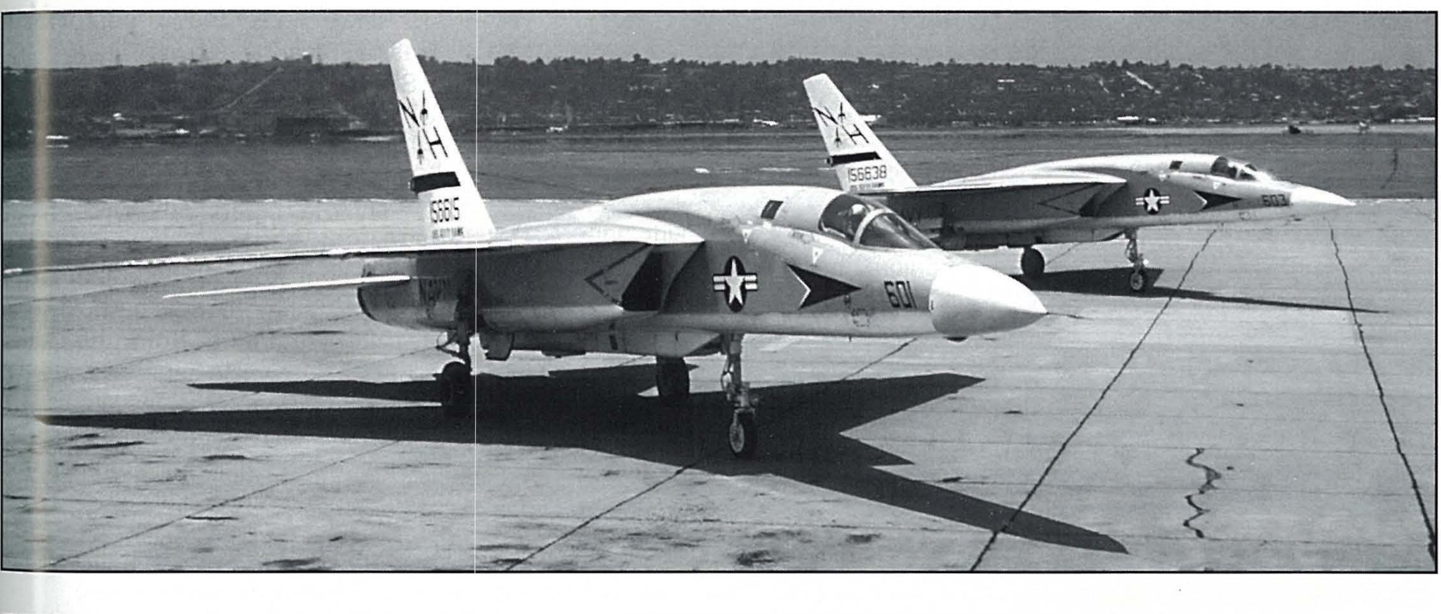
As part of CVW-17 aboard the USS Forrestal (CV-59), Heavy Six deployed to the Med from 11 March through 11 November 1974. Most of the deployment was spent at sea off the island of Cyprus during the




NAVY
RVAH-6
601

Greek-Turkish conflict. In May she was off West Africa for special operations. On 11 July an RA-5C, BuNo 156614, was lost after an ejection

Above, Kitty Hawk-based RVAH-6 RA-5C BuNo 156615 with crew at NAS North Island on 17 May 1975. (William Swisher) Below, RVAH-6 BuNos 156615 and 156638 taxiing at North Island in May 1975. (via Kaston) Bottom, RVAH-6 RA-5C BuNo 156632 in 1976 with bicentennial markings on the tail being hot fueled. (R. E. Kling via Kaston)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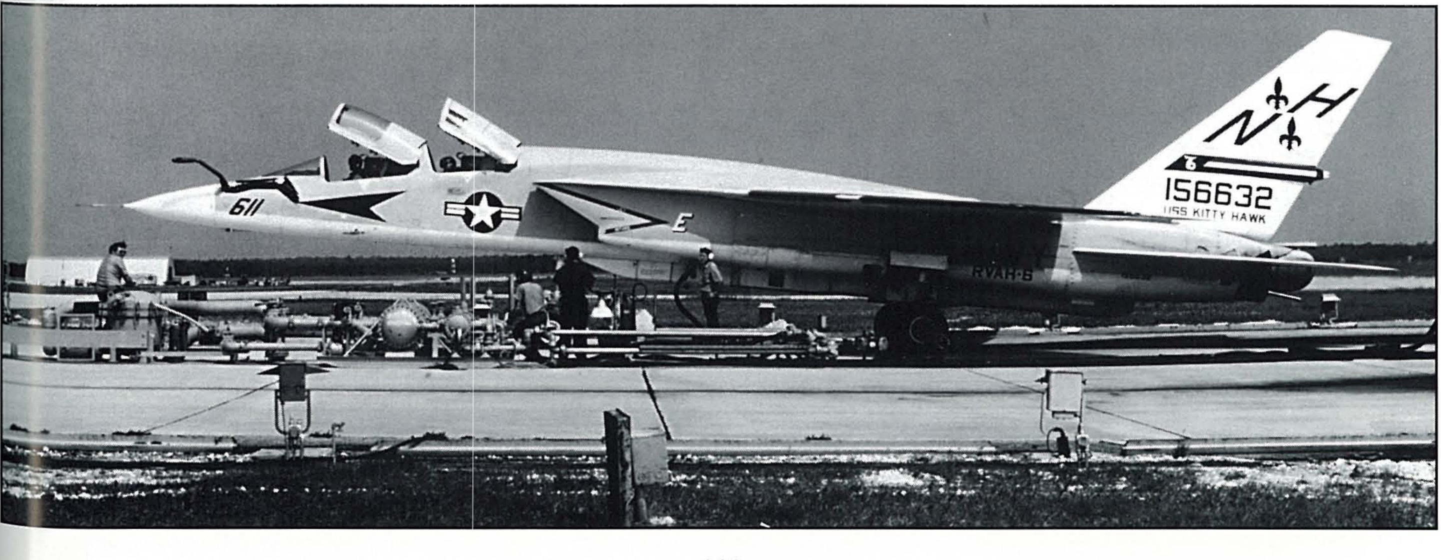
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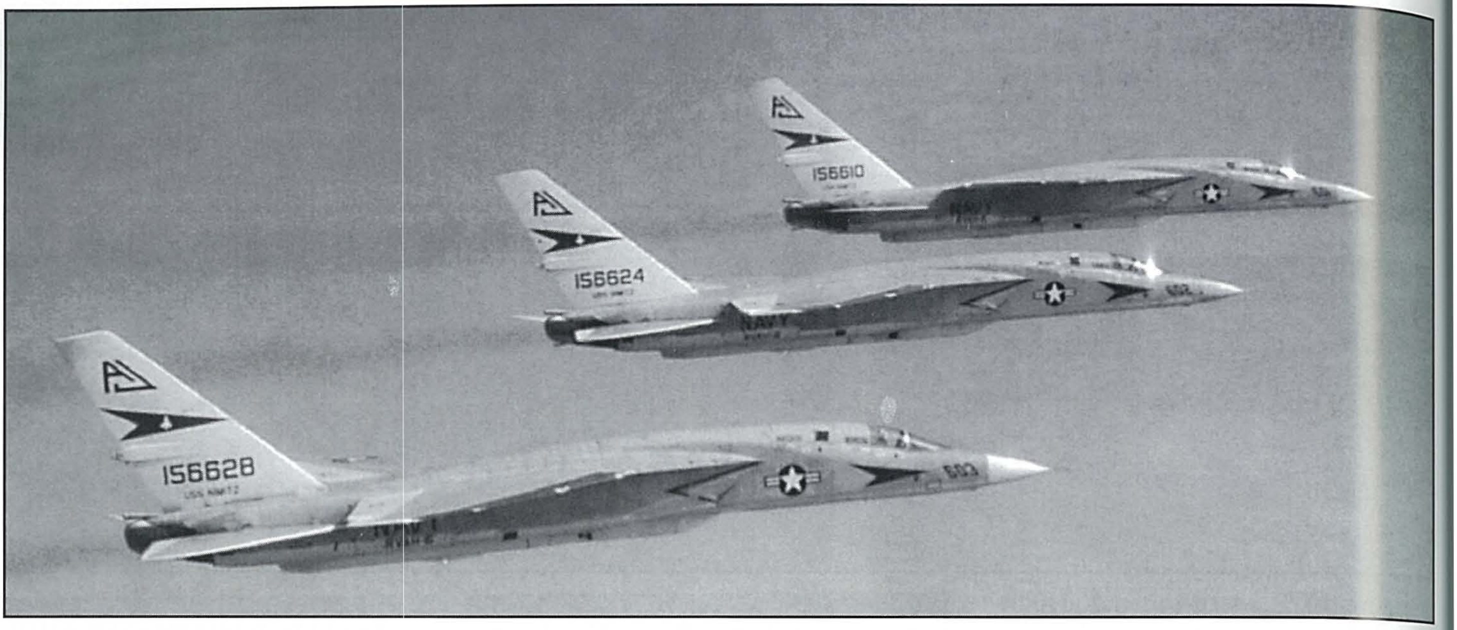
156610
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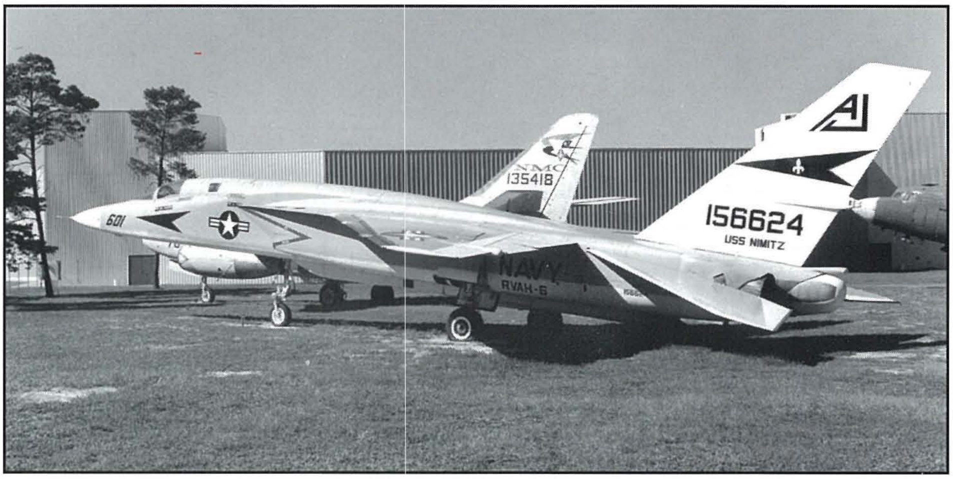
156628

Above, Nimitz-based RVAH-6 RA-5Cs BuNos 156628, 156624, and 156610 in flight over the Med in 1978. (USN) Below, National Museum of Naval Aviation RA-5C BuNo 156624 in RVAH-6 Nimitz cruise markings on 13 October 1980. (Norm Taylor) Bottom, RVAH-6 RA-5Cs BuNos 156628 and 156610 on the deck of CVN-68 in 1975. (USN)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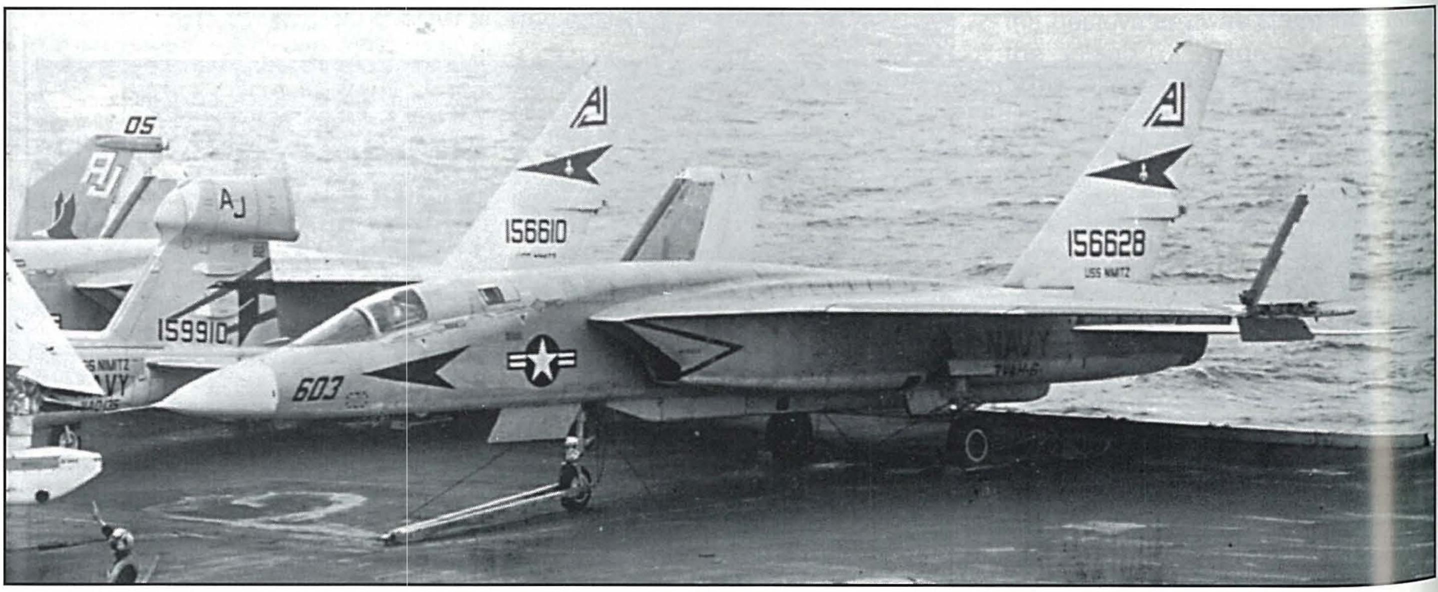
by LT Rutledge and LTJG Parr. The ship left for Norfolk on 3 September 1974.

The Fleurs' 1975 deployment was a WestPac cruise aboard the USS Kitty Hawk (CV-63) where on 17 October the unit received the CNO Aviation Safety Award.

RVAH-6 boarded the USS Nimitz (CVN-68) for the squadron's last deployment from 1 December 1977 through 20 July 1978 as part of CVW-8. After returning from the Med, RVAH-6 was disestablished on 26 October 1978 at NAS Key West, FL.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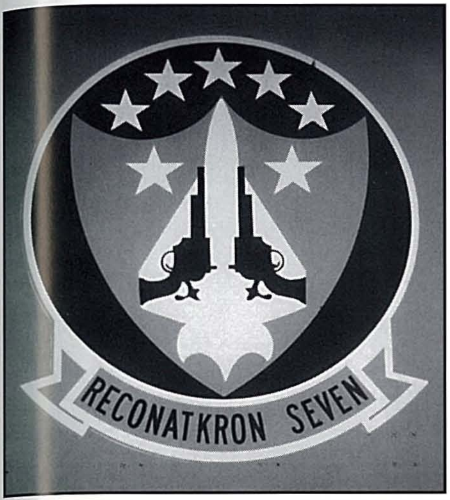
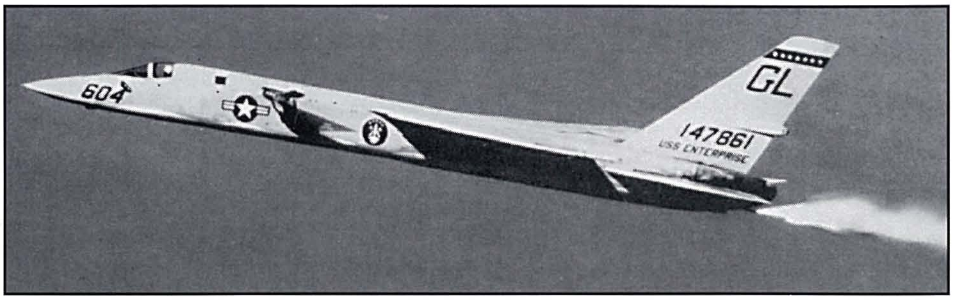
RVAH-7 "PACEMAKERS OF THE FLEET"





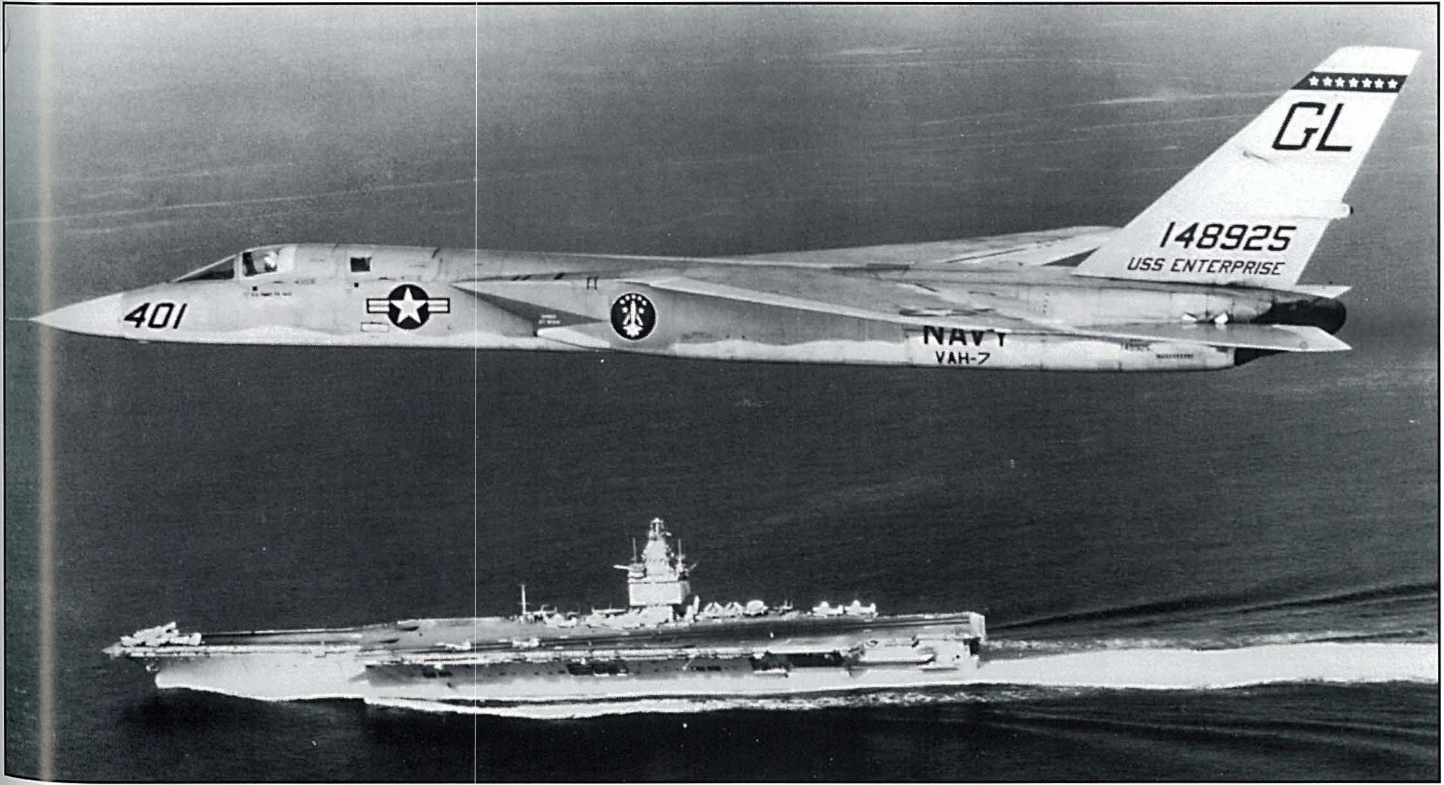
Composite Squadron Seven (VC-7) was established at NAS Moffett Field, CA, on 10 August 1950 with P2V-2 and P2V-3C Neptunes. The unit transferred to NAS Norfork, VA, in May 1951 where they received AJ-1 Savages in June. On 1 November 1952, the squadron transferred to NAS Patuxent River, MD, and in early 1955 they moved to NAS Sanford, FL, where VC-7 was redesignated Heavy Attack Squadron Seven (VAH-7) on 1 July 1955.

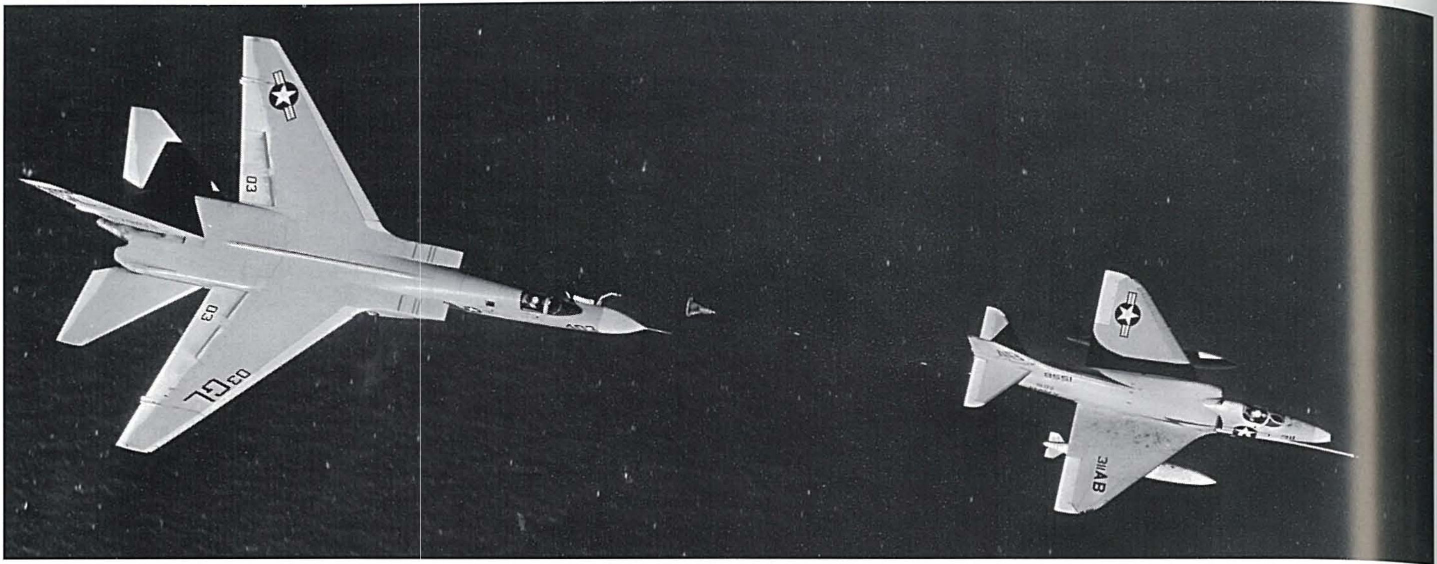
Heavy Seven's Savages were replaced by A3D-2 Skywarriors in early 1958. During 1959, VAH-7 tested and proved the low-altitude loft bombing maneuver for Atlantic Fleet Skywarriors and during the annual bombing derby won the attack mission trophy with a near bullseye by CDR Barrow, the squadron CO. VAH-7 made a partial deployment from 14 July through 18 December 1961 aboard the USS Independence (CVA-62) with VAH-1 when it started preparations for transition to the A3J-1.

VAH-7 became the first operationally deployed A3J-1 Vigilante squadron when conversion to the Vigi was completed in January 1962. It was during this conversion that the squadron's prospective Commanding Officer, CDR Bud Gear, was killed during a night carquall aboard the USS Franklin D. Roosevelt (CVA-42). He hit the ramp during his first night landing attempt and went off the angle.

The new USS Enterprise was the first ship to deploy the A3J-1 (A-5A) Vigilante and VAH-7 was the first squadron to deploy it. CVAN-65's shakedown cruise commenced on 5 February 1962. The Big "E" sailed from Norfolk to Mayport where VAH-7

Above, VAH-7 A3J-1 BuNo 147861 in flight with squadron's "GL" tail code in early 1962. (USN) Bottom, VAH-7 A3J-1 BuNo 148925 over the Enterprise in early 1962. (USN via Swisher)





Above, VA-172 A4D-2N Skyhawk refuels a VAH-7 A3J-1 Vigilante on 5 April 1962. (USN via Barry Miller) At left, VAH-7 A3J-1 appears to leap off the deck of CVAN-65 during a launch in 1962. (USN) Below, VAH-7 A3J-1 BuNo 148925 launches from the Enterprise in early 1962. (USN)

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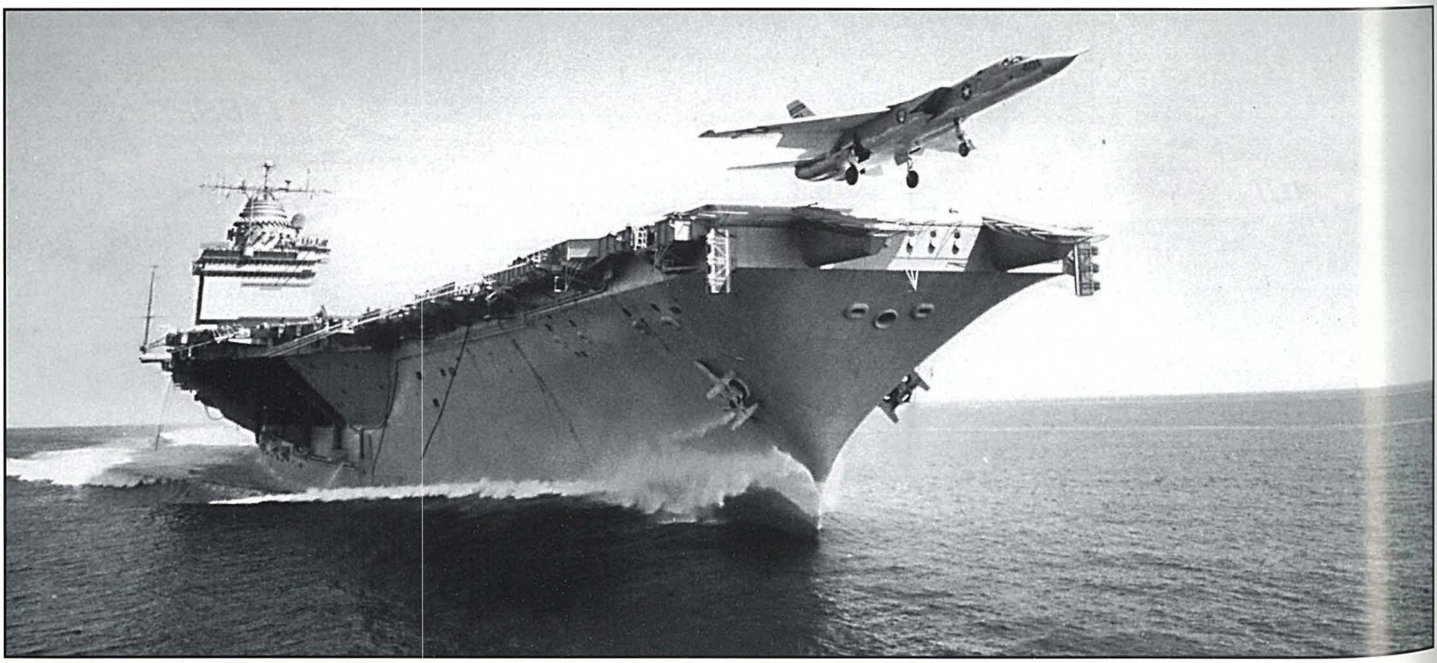
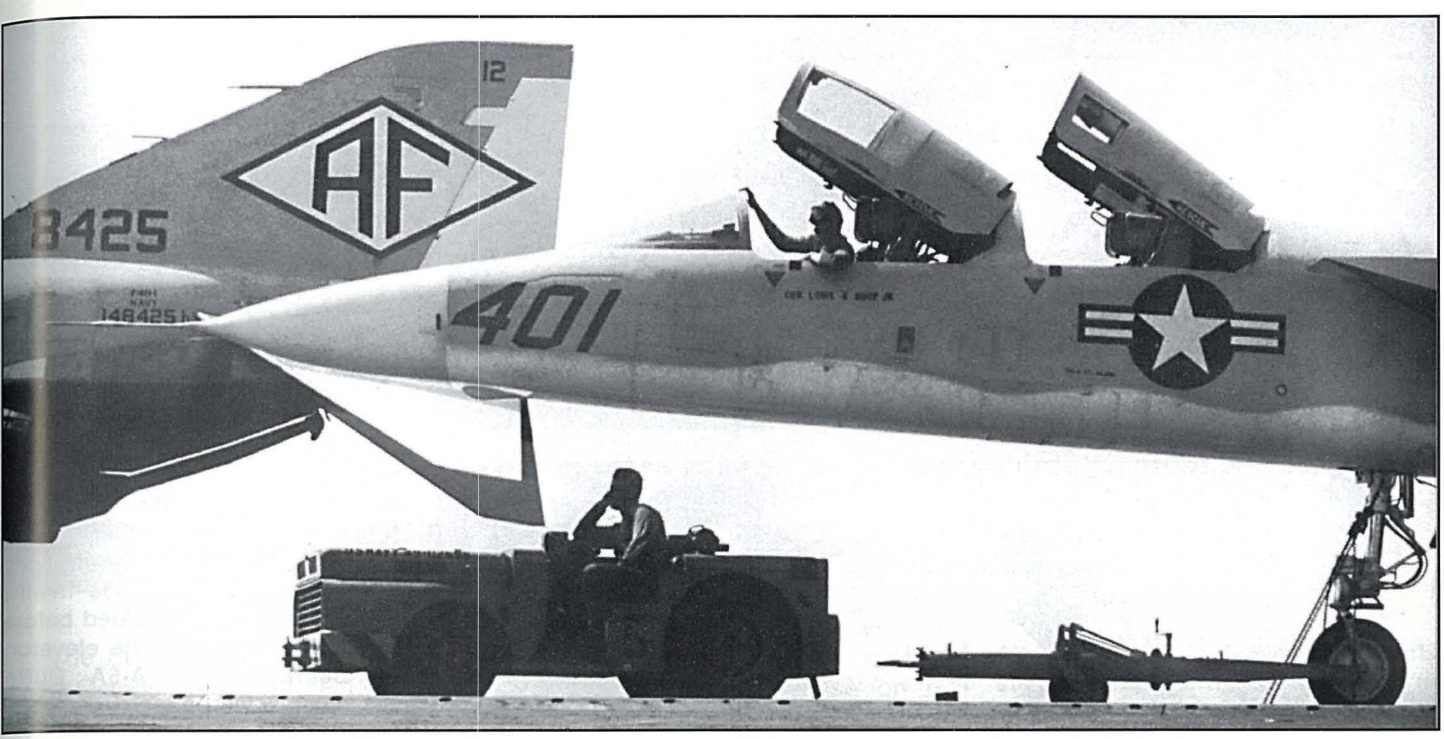
was loaded aboard. Shakedown training was completed on 5 April and the carrier returned to Norfolk on 8 April. On 14 April, President John F. Kennedy boarded the ship for a Second Fleet firepower demonstration, which included the USS Forrestal (CVA-59) and

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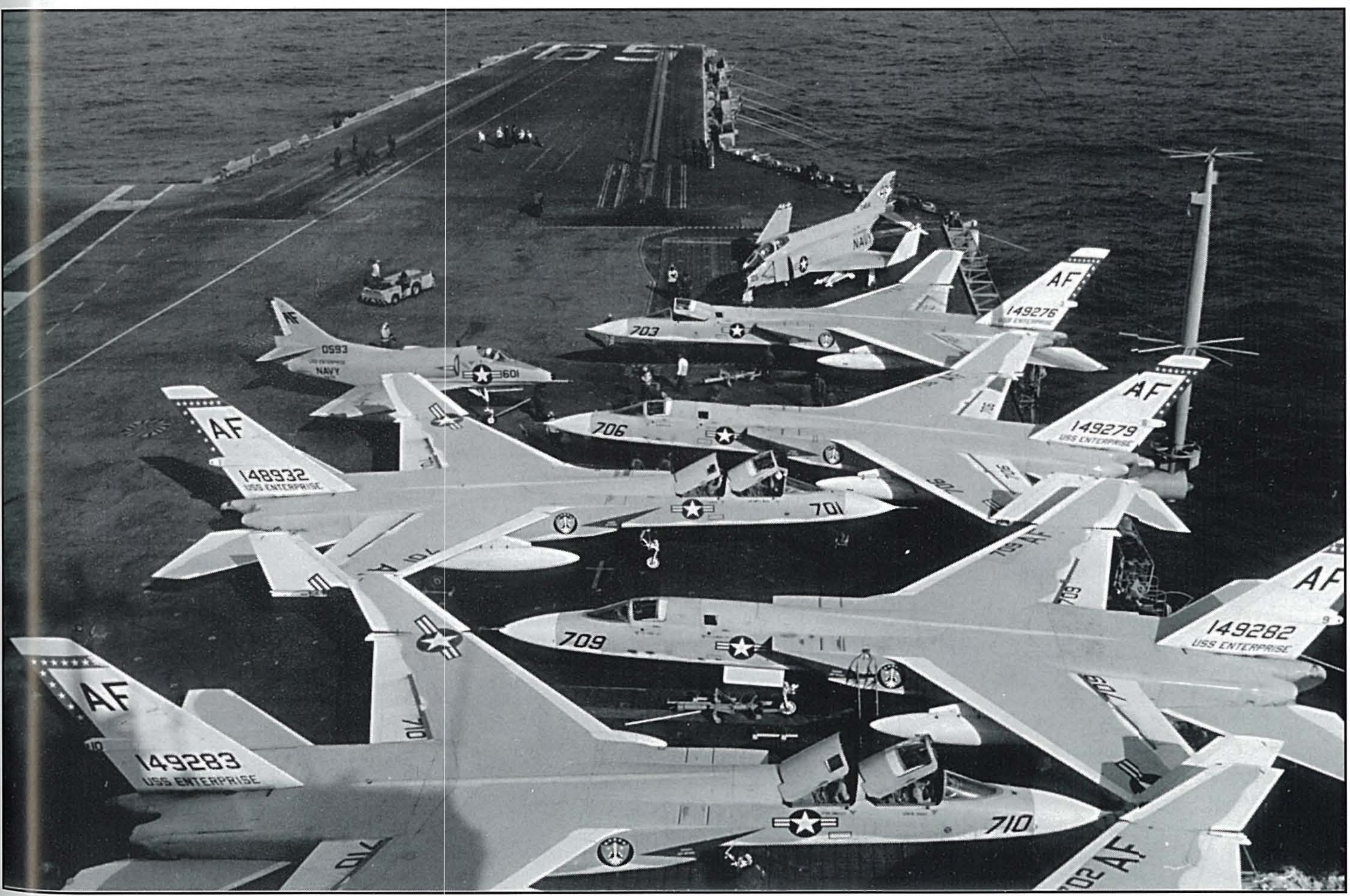
the USS Lake Champlain (CVS-39). Enterprise returned to Norfolk on 23 April 1962 and prepared for her first operational deployment.

In June, with CVG-6 aboard, the Enterprise completed work-ups and the Mediterranean Sea deployment commenced on 3 August. Enroute to the Med, crossdeck exercises were

Above, distinctive long thin nose of a VAH-7 A3J-1 on the deck of Enterprise in 1962. (USN) Bottom, six VAH-7 A3J-1 Vigilantes on the forward deck of CVAN-65 on 29 January 1963. (USN)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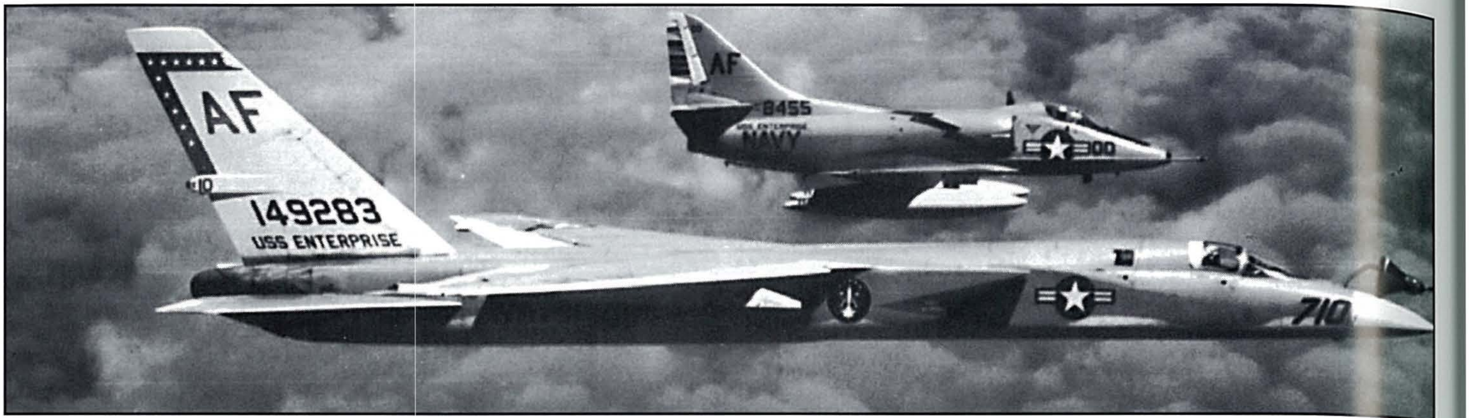
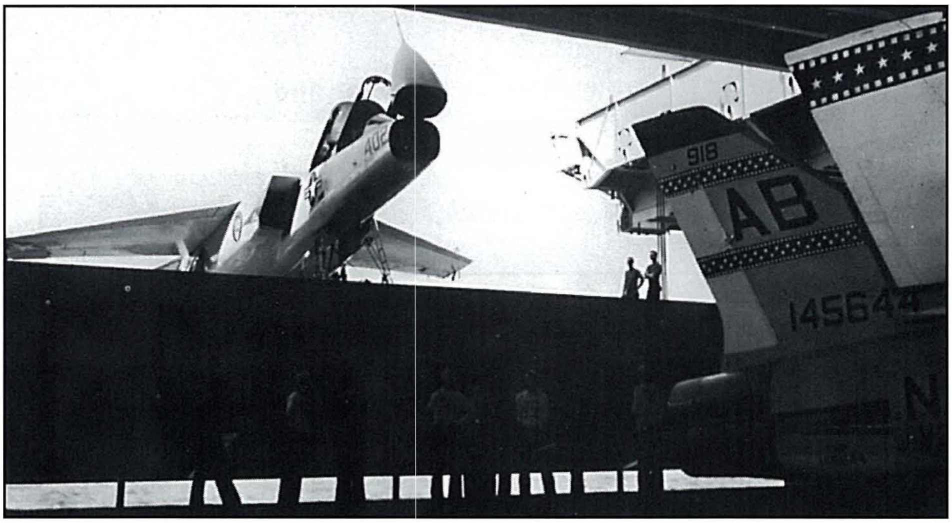
USS ENTERPRISE
710


AF
149283
USS ENTERPRISE
710
AF
NAVY


AB
918
145644

Above and bottom, VAH-7 A-5A 149283 in August 1962; tail trim was blue. (USN and USN via Barry Miller) At left, Vigilante riding the elevator in early 1962. Length of the A3J-1/A-5A required the nose to be folded before the aircraft would fit on the elevator. (USN) Below, VAH-7 A-5A BuNo 149284 being towed aboard CVAN-65 in 1962. (USN)

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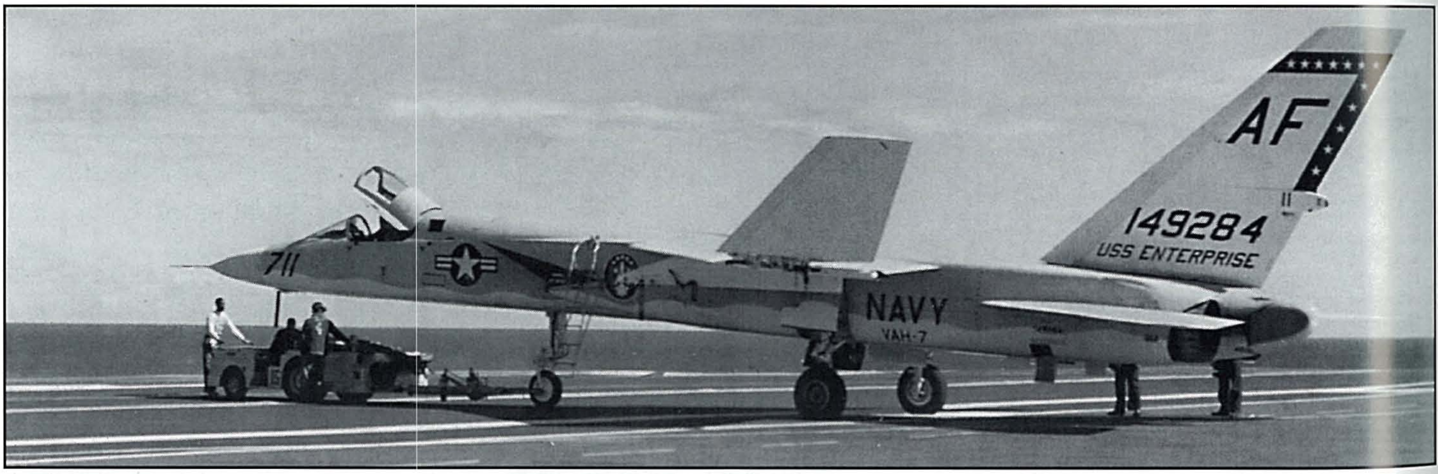
conducted with British carriers off of Portugal. Highlights of the cruise were visits to Cannes and Naples. The Big "E" returned to Norfolk on 11 October 1962.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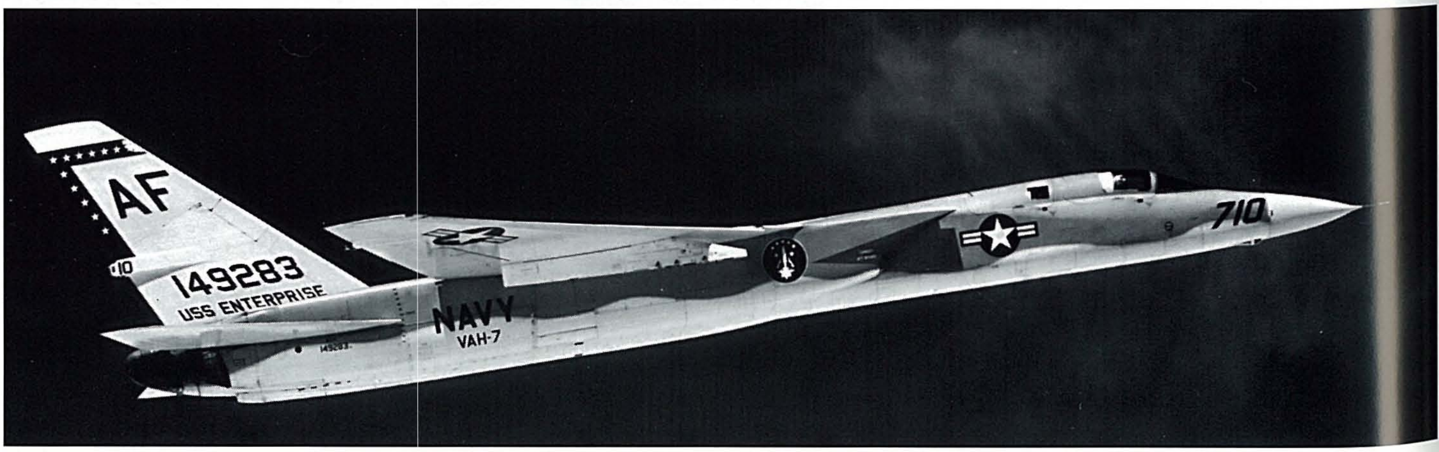
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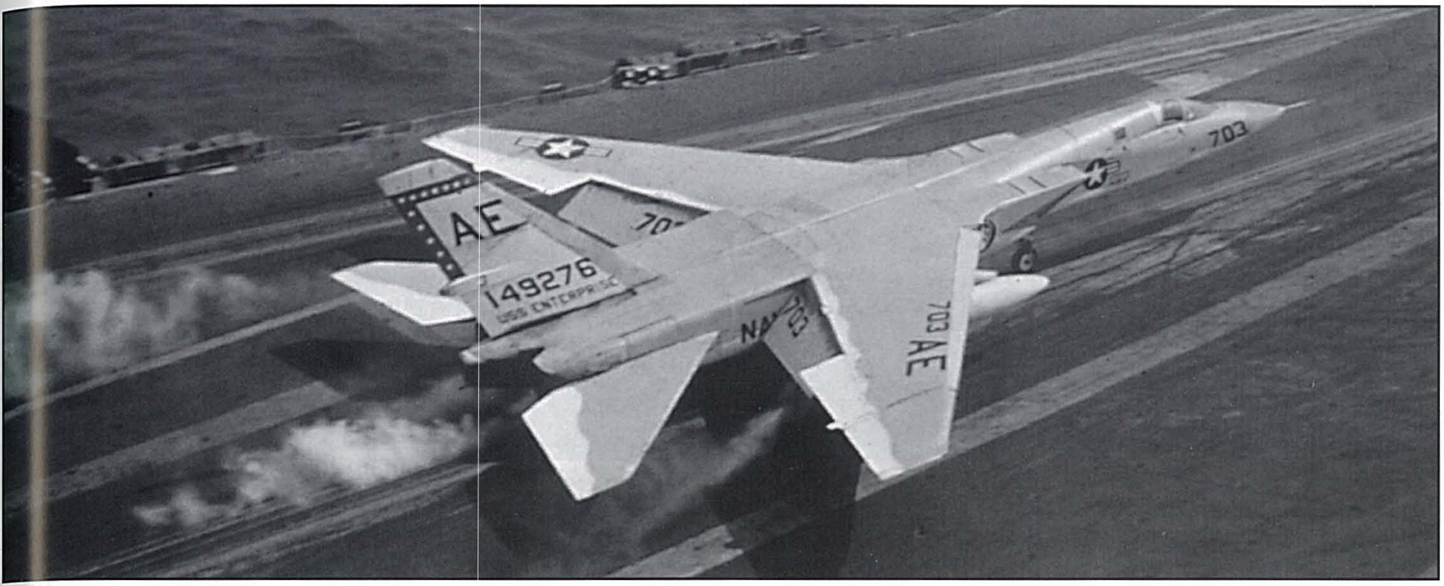
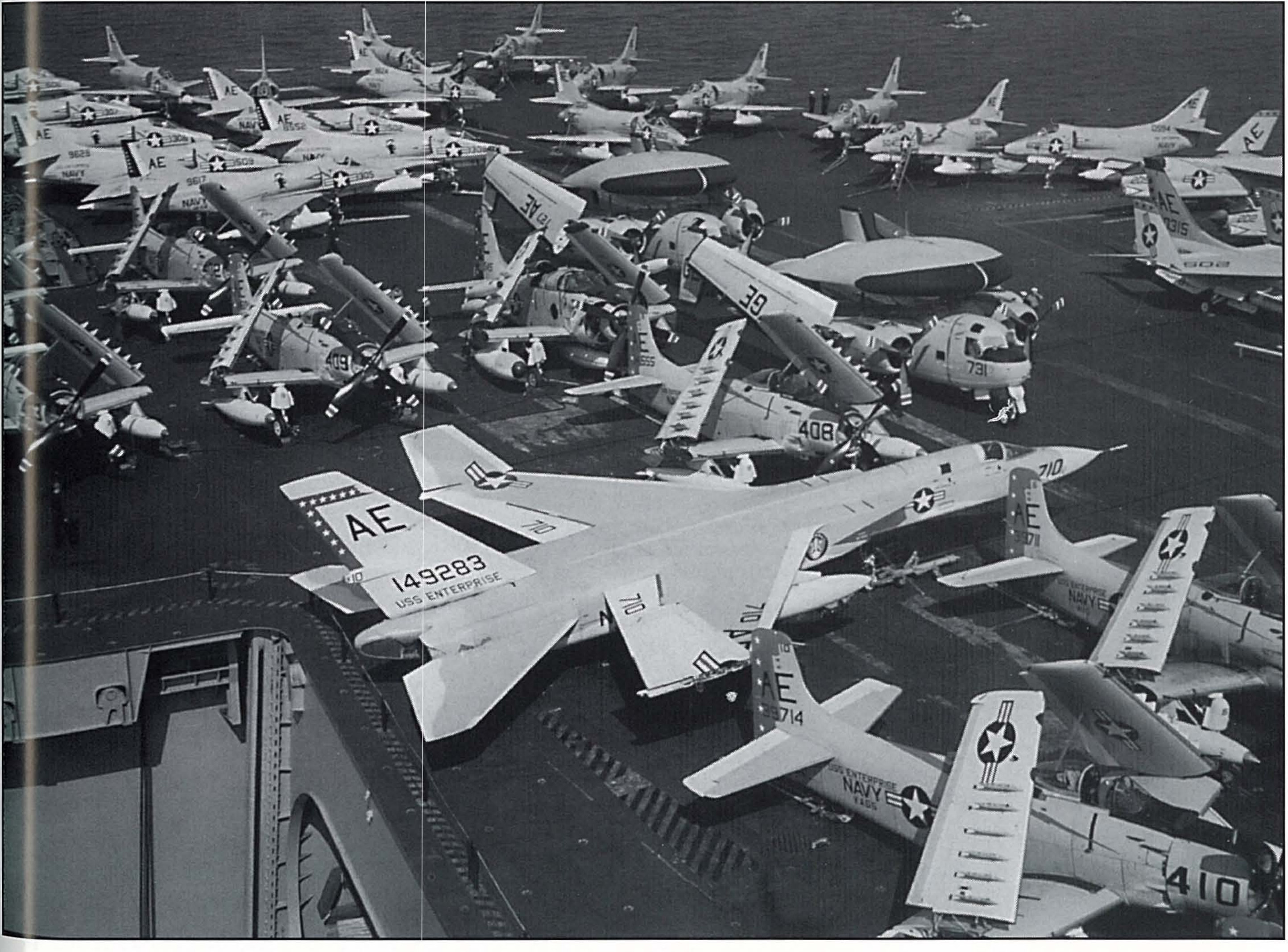
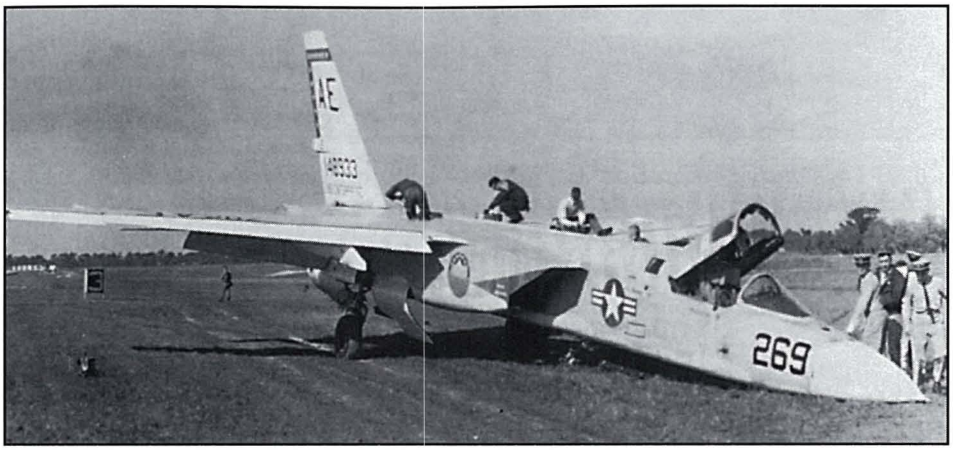


The Enterprise was back at sea by 22 October as part of TF 135 during the quarantine of Cuba. Once the Cuban missile crissis eased, the ship returned to Norfolk on 8 December 1962.

Heavy Seven returned to the Med with CVG-6 and Enterprise on 6 February 1963. She relieved Forrestal at Pollensa Bay on the 18th and commenced Sixth Fleet operations. On 20 February, A-5A BuNo

Above, VAH-7 A-5A BuNo 149276 rockets down the Enterprise's deck in 1963; the "AE" tail code was replaced with "AF" on VAH-7 A-5As. (USN) Below, VAH-7 A-5A BuNo 149283 dwarfs the other CVG-6 aircraft in 1963. (Sweikar via Burger)





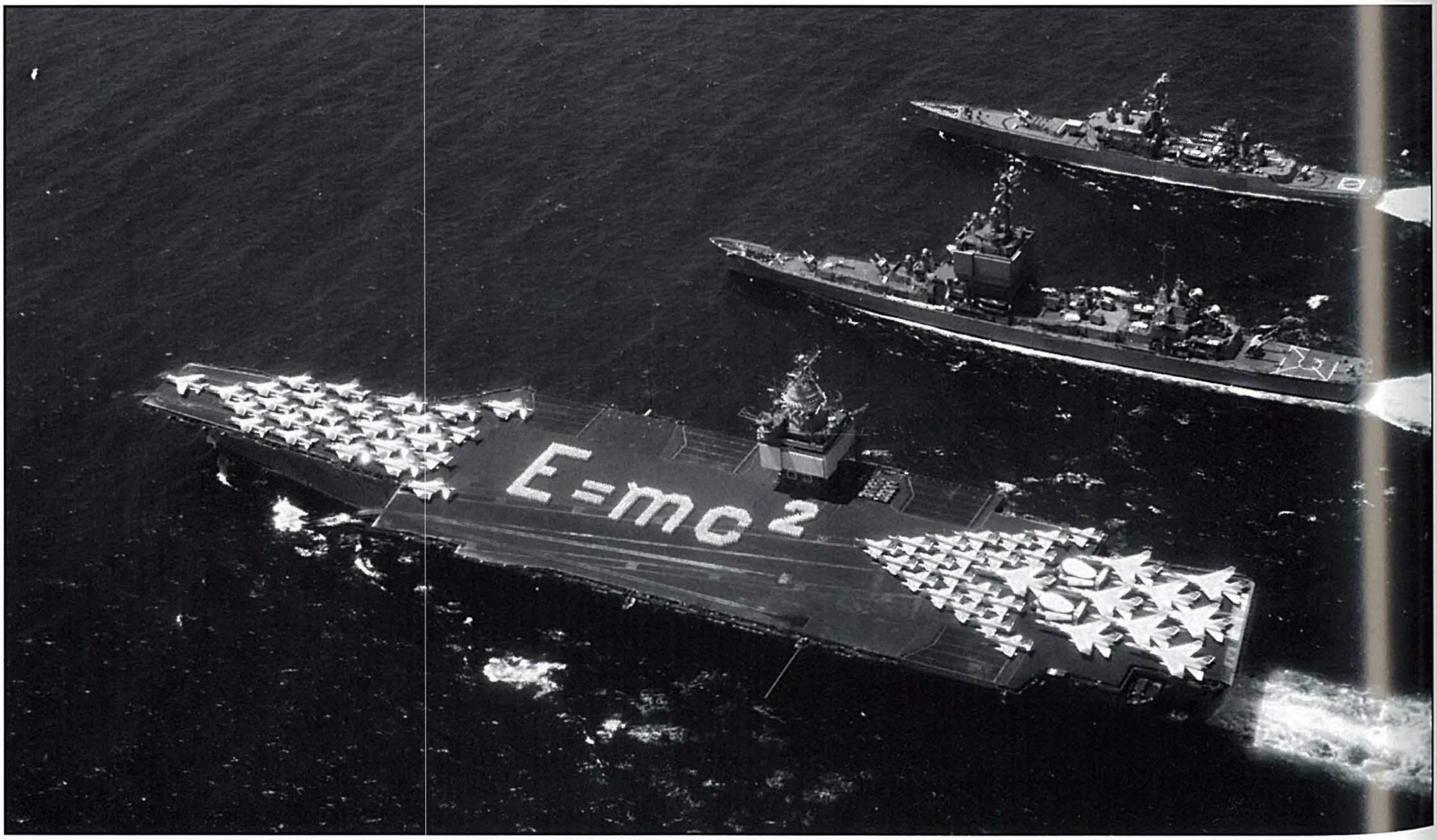
149282 was striken. In May, CVAN-65 participated in NATO exercise Fair Game with the Saratoga and the French carrier Clemenceau. The Independence relieved Enterprise on 24 August and on 4 September 1963 she returned to Norfolk. VAH-7 was awarded the CNO Safety Award for 1963.

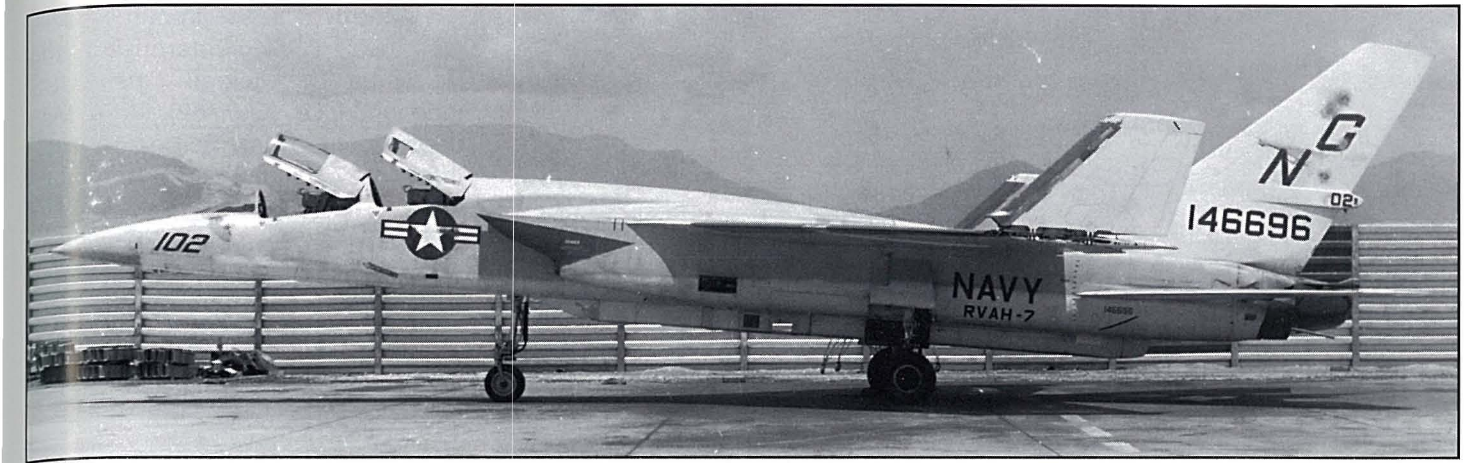
VAH-7s last deployment with the A-5A was a Med/World cruise with CVG-6 and Enterprise from 8 February through 3 October 1964. On 19 February CVAN-65 relieved Independence and joined with the nuclear powered escorts USS Bainbridge and the USS Long Beach. The squadron lost 148931 after the crew ejected on 5 May. On 23 July she was relieved by Forrestal and on 31 July, the Enterprise, Bainbridge and Long Beach became Task Force One and commenced Operation Sea Orbit, the 30,565 mile around-the-world cruise. A second A-5A, BuNo 147863, was lost when the crew ejected on 27 September. On 2 October, all aircraft were launched for shore and the ship docked the next day.

The unit transitioned to RA-5Cs in August 1964 and on 1 December was redesignated RVAH-7. Because of the new RA-5Cs, Enterprise had the Integrated Operational Intelligence Center (IOIC) installed. The Enterprise was to change ports to NAS Alameda for the carrier's first war deployment. With CVW-9 aboard, the carrier left Norfolk on 26 October 1965. She sailed to St. Thomas for final workups, rounded the Cape of Good Hope and across the Indian Ocean. She stopped in the Philippines on 27 November and commenced combat operations on 2 December 1965. On 15 December, RA-5C 151633 was lost over South Vietnam to AAA. The crew, LT J. K. Sutor and LTJG G. B. Dresser, were recovered. The Enterprise departed Yankee Station on 5 June and arrived at Alameda on 21 June 1966.

A second war cruise with Enterprise and CVW-9 occurred from 19 November 1966 through 6 July 1967. An ORI was conducted from 24

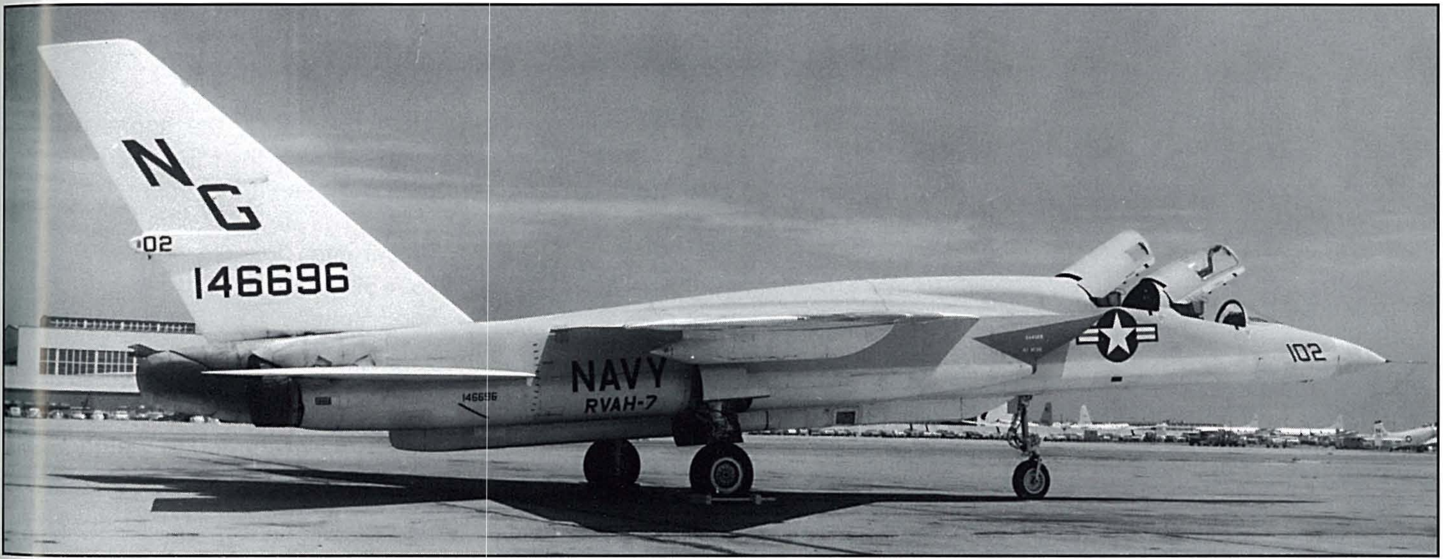
Above left, VAH-7 A-5A BuNo 148933 with collapsed nose gear in 1963. (USN) Below, nuclear Task Force, USS Enterprise (CVAN-65), USS Long Beach (CGN-9), and USS Bainbridge (DLGN-25) during Operation Sea Orbit on 30 June 1964. (USN)

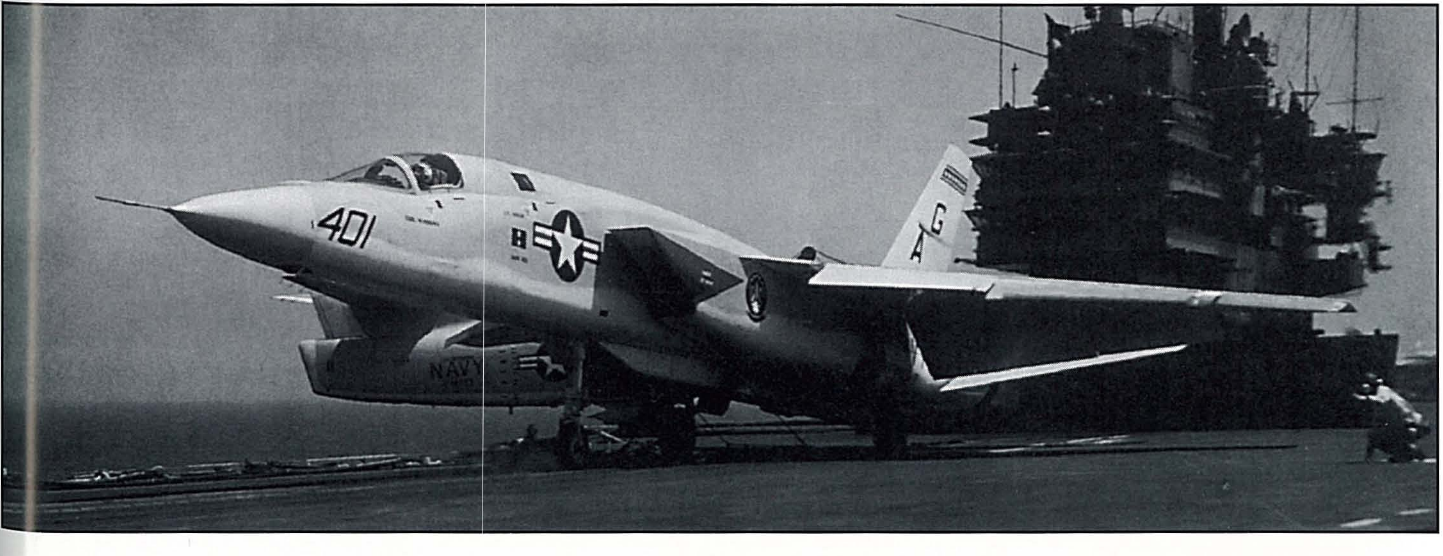


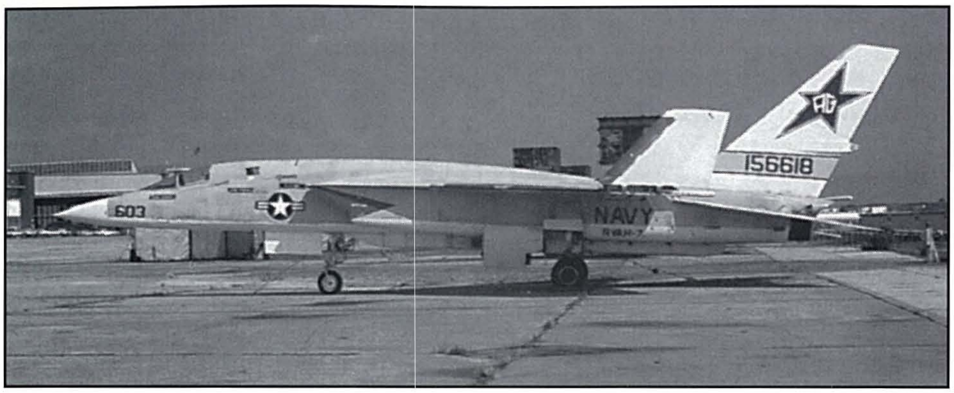


to 26 November and the ship arrived at Subic Bay, PI, on 8 December 1966. Combat operations commenced on 18 December. RA-5C 151623 was shot down by AAA over North Vietnam on 12 February 1967. Both crewmen, CDR D. H. Jarvis and LTJG P. H. Artlip, were recovered. On June 6th 1967, RVAH-7 aircraft photgraphed a SAM park, complete with transporters, fuel and radar trucks hidden in the trees. On 7 June, the Air Wing struck the location, 35 miles from Hanoi, and destroyed it. On 26 June the ship sailed for home.

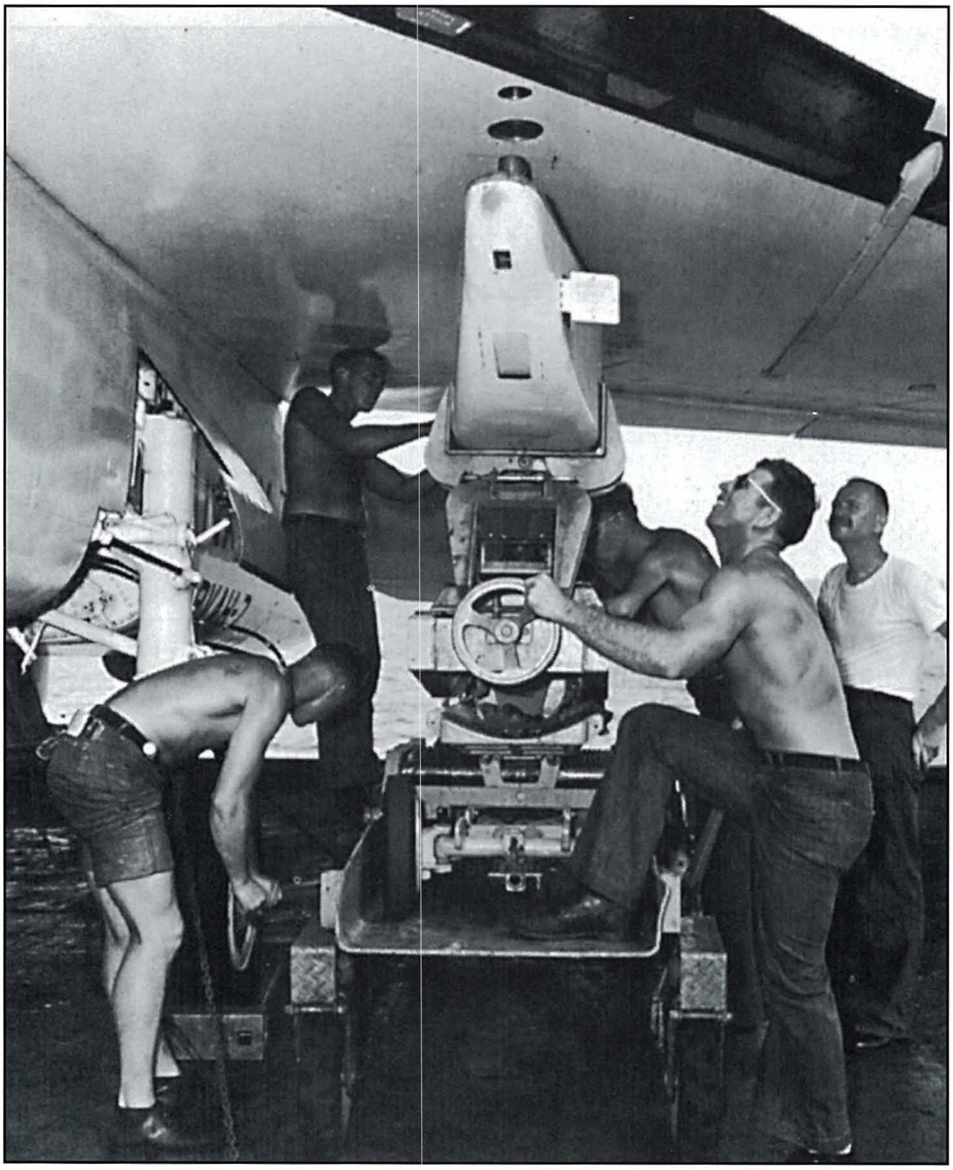
Above, RVAH-7 RA-5C BuNo 146696 at Da Nang AB, Vietnam, in 1966. (Jerry Geer collection via Kaston) Below, RVAH-7 RA-5C BuNo 146696 between deployments at NAS Alameda, CA, on 5 July 1967. (William Swisher) Bottom, RVAH-7 RA-5C aboard the USS Independence; "AG" tail code during the 1968-69 Med cruise. (USN)







Above, Independence-based RVAH-7 RA-5C BuNo 156618 in 1969 with "AG" tail code and BuNo painted on a powder blue tail stripe outlined in black. (R. L. Kling) Below, flasher pod being installed on a VAH-7 RA-5C while deployed aboard ship. (USN) At right top, RVAH-7 RA-5C BuNo 149291 at NAS Alameda, CA, in December 1970. Tail markings consisted of seven red stripes and seven blue stars. Nose number was 600 during its Constellation cruise and 120 in the predeployment photos seen below. (D. Kasulka via Norm Taylor) At right middle, BuNo 149291 trapping on CVA-64 on 15 May 1969 off the coast of California prior to deployment. At right bottom, RVAH-7 RA-5C BuNo 149291 NAS Lemoore, CA, on 4 May 1969. Tail markings were red. (William Swisher)



After five cruises from the decks of the USS Enterprise, the Peacemakers joined the USS Independence (CVA-62) for a Med deployment from 26 April 1968 through 27 January 1969 as part of CVW-7. During the cruise, BuNo 147854 was lost when the crew ejected on 14 May 1968. After returning to Albany, the squadron lost RA-5C 149287 on 19 June 1969 during work-ups for their war cruise aboard CVA-64.

RVAH-7 sailed for war once more on 11 August 1969 aboard the USS Constellation as part of CVW-14. Combat operations commenced on 12 September. A Heavy Seven crew ejected from BuNo 148928 on 1 January 1970 while operating out of Clark AB, PI, The Connie was ordered to Defenders Station in the Sea of Japan after the downing of a VQ-1 EC-121 by the North Koreans on 14 April 1970 and returned to CONUS on 8 May 1970.

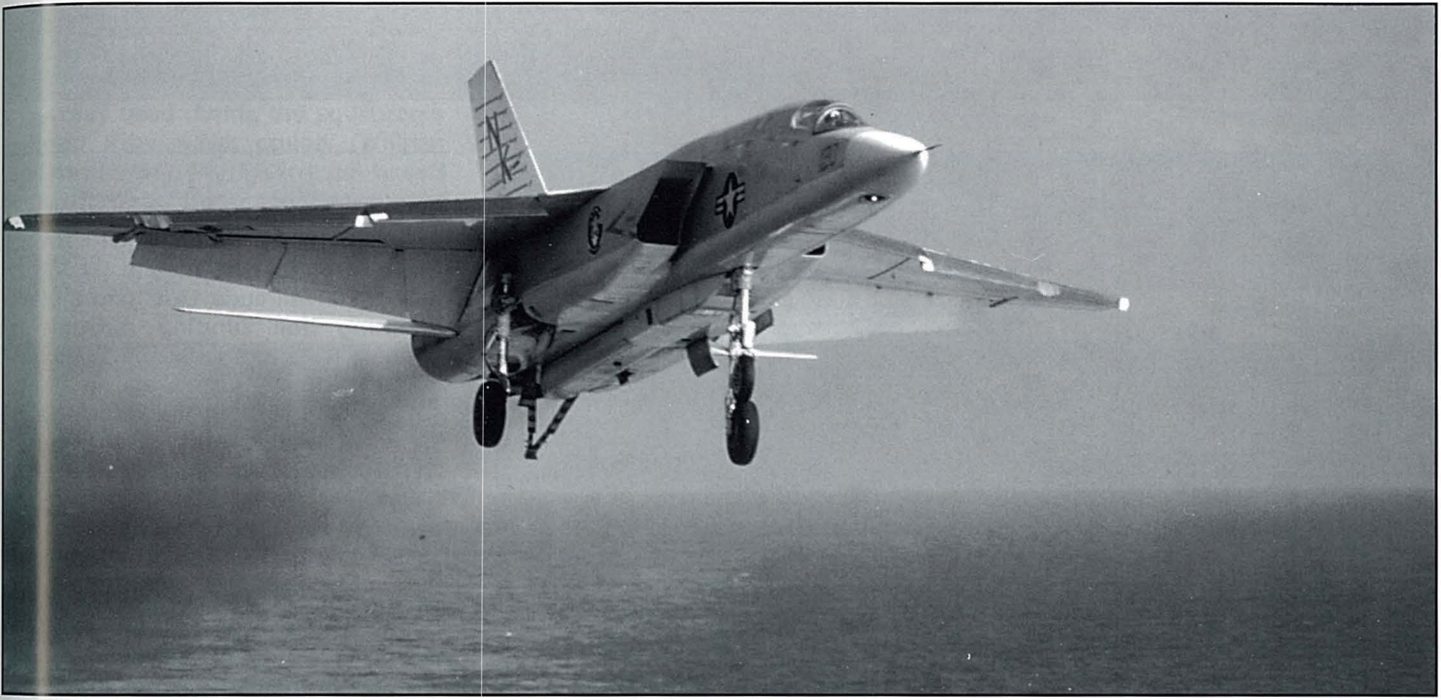
During 1971, the squadron was assigned to the Forrestal for a Mediterranean deployment. As part of CVW-17, RVAH-7 sailed on 5 January for the Sixth Fleet cruise. CVA-59 relieved Independence at Rota, Spain, on 24 January. She was relieved by Saratoga on 27 June and returned to Norfolk on 2 July 1971.

RVAH-7 returned to Vietnam, this time as part of CVW-11 aboard the USS Kitty Hawk (CVA-63) from 17 February through 28 November 1972. During this cruise, RA-5C 151618 was lost to AAA over North Vietnam on 7 May 1972. Both CDR C. R. Polfer and LTJG J. E. Kerman became POWs. The squadron completed 610 combat sorties and participated in Operation Linebacker.

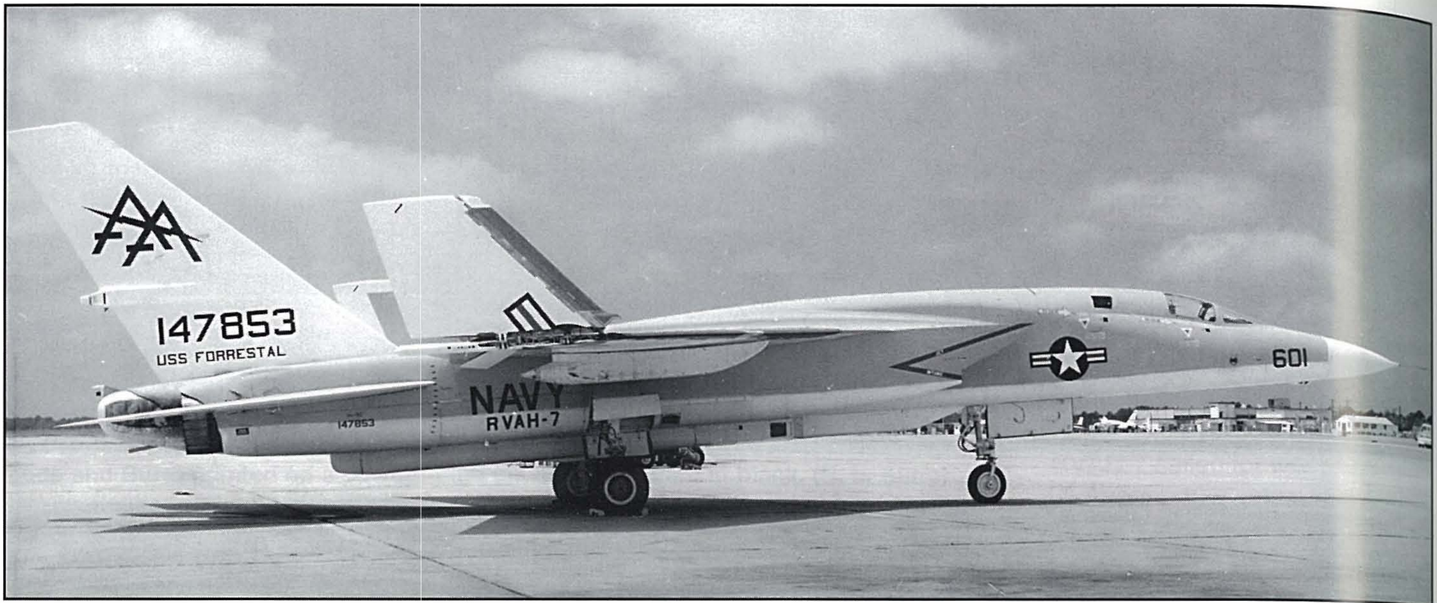
A second Kitty Hawk cruise was made after hostilities ceased in South East Asia. The WestPac deployment was from 23 November 1973 through 9 July 1974.

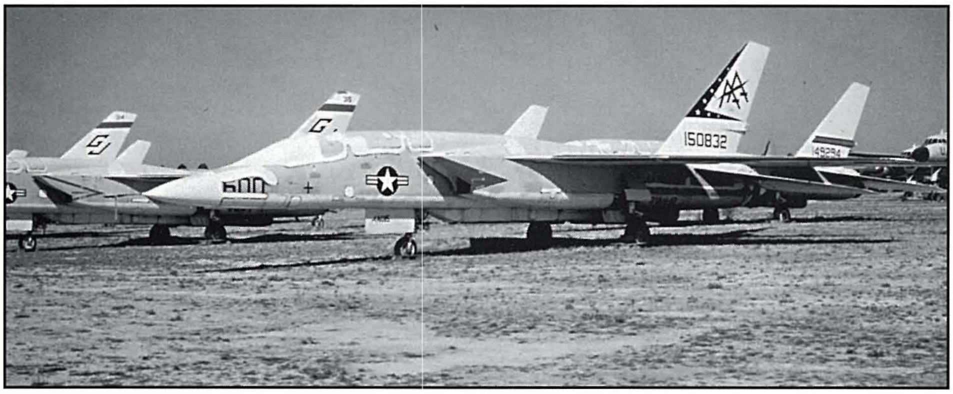
Heavy Seven joined CVW-17 and the USS Forrestal (CVA-59) a second time for a Med deployment from 5 March through 22 September 1975.

149291
USS CONSTELLATION
NAVY
RVAH-7
600



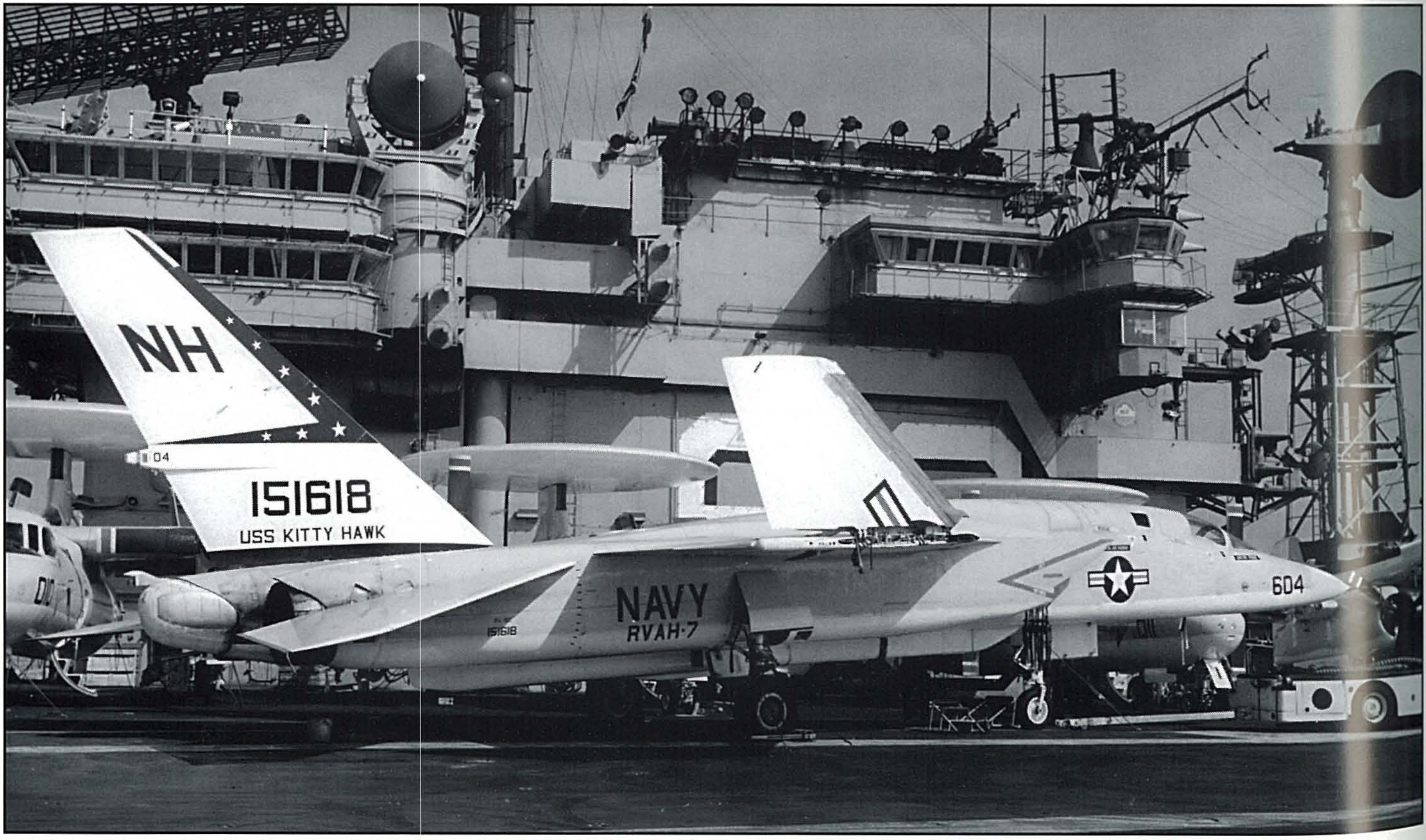
149291
USS CONSTELLATION
NAVY
RVAH-7
120

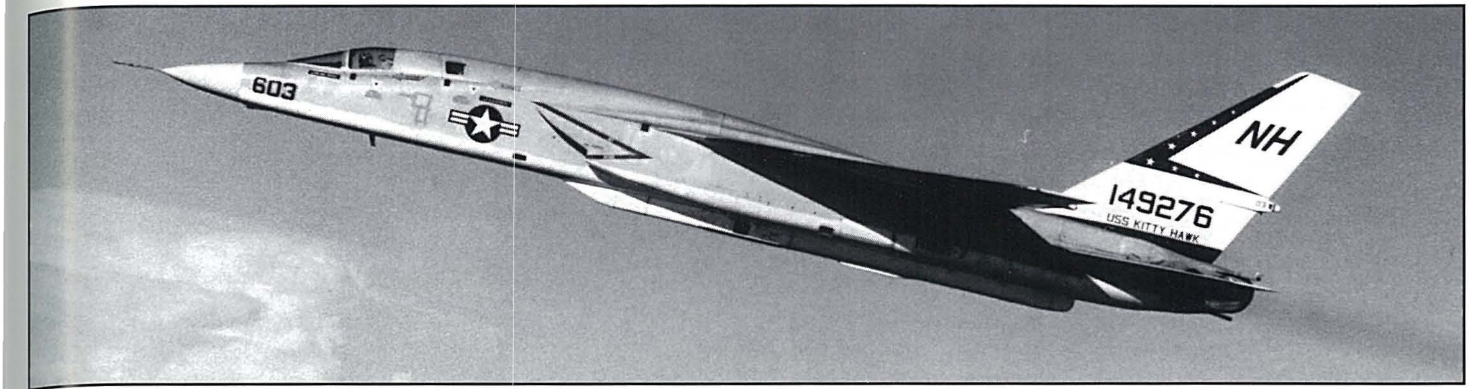

147853
USS FORRESTAL
NAVY
RVAH-7
601



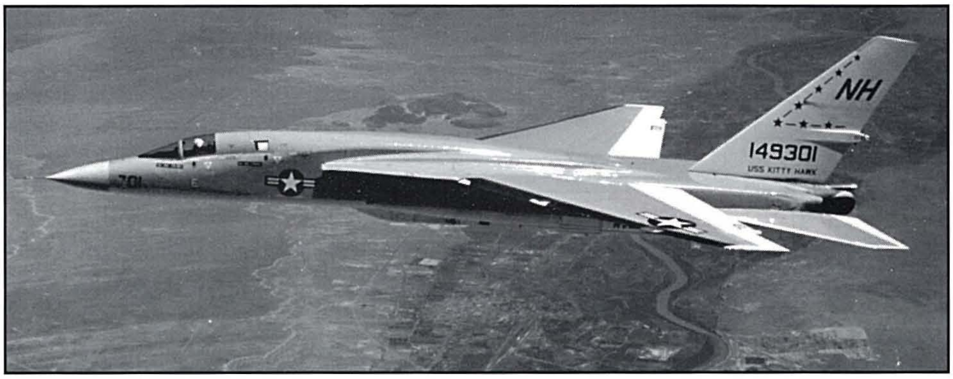
RVAH-7

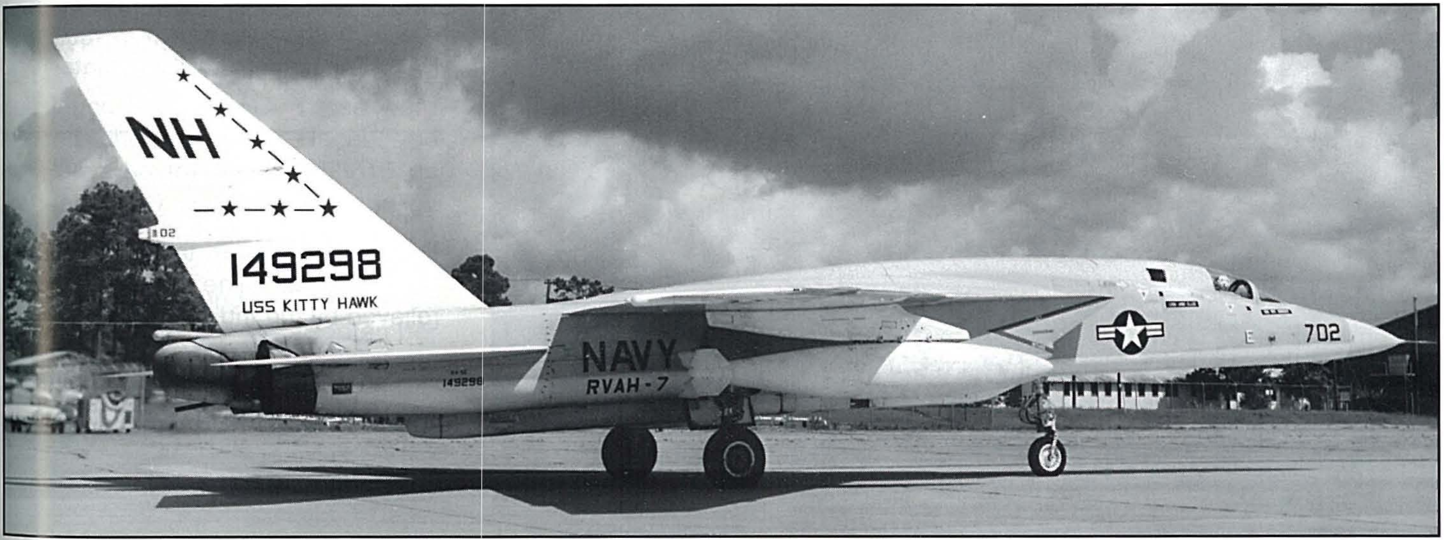
Above, Forrestal-based RVAH-7 RA-5C BuNo 147853 at NAS Albany, GA, on 27 July 1970. Tail code "AA" had a black lightning bolt running through it. (William Swisher) At left, RVAH-7 RA-5C BuNo 150832 in storage in March 1972 with black tail markings. (Dave Menard) Below, Kitty Hawk-based RVAH-7 RA-5C BuNo 151618 aboard CVA-63 at North Island, CA, on 16 February 1972. (William Swisher)

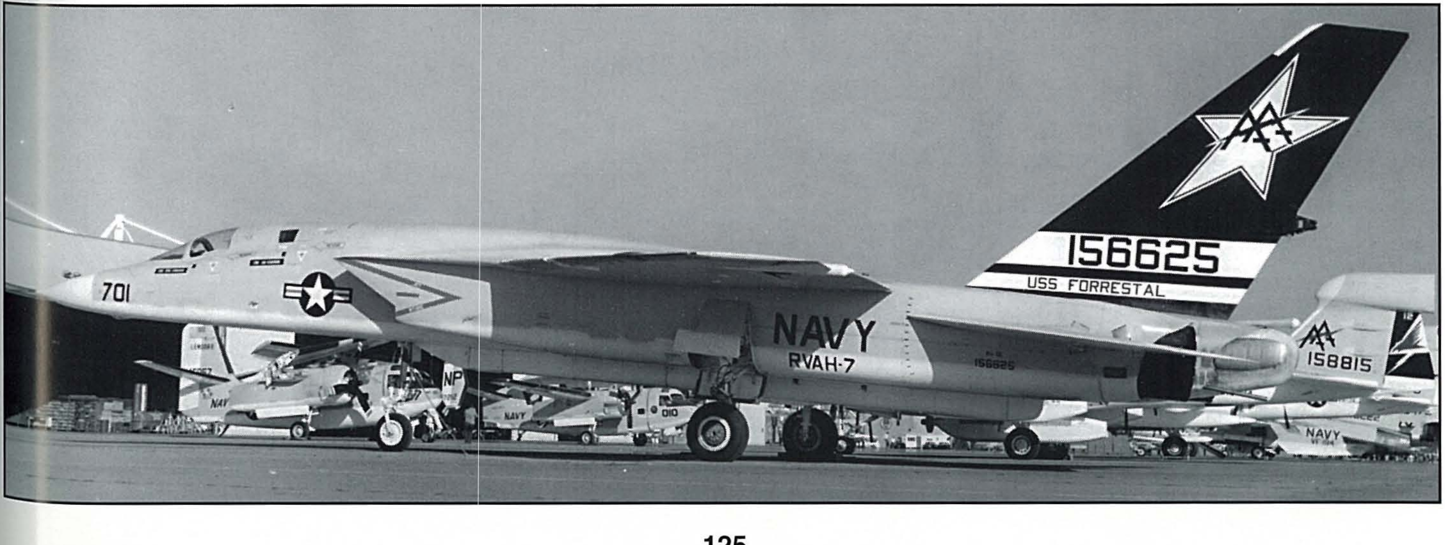

NH
151618
USS KITTY HAWK
NAVY
RVAH-7
604

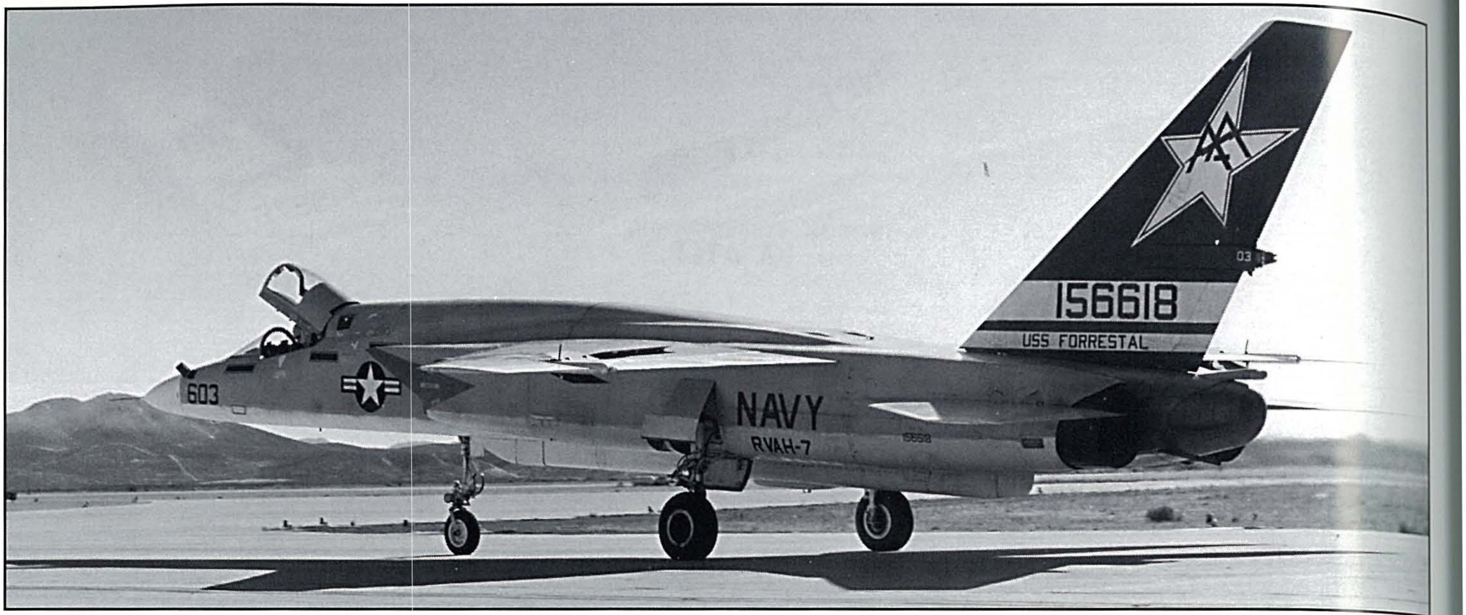

603
NH
149276
USS KITTY HAWK

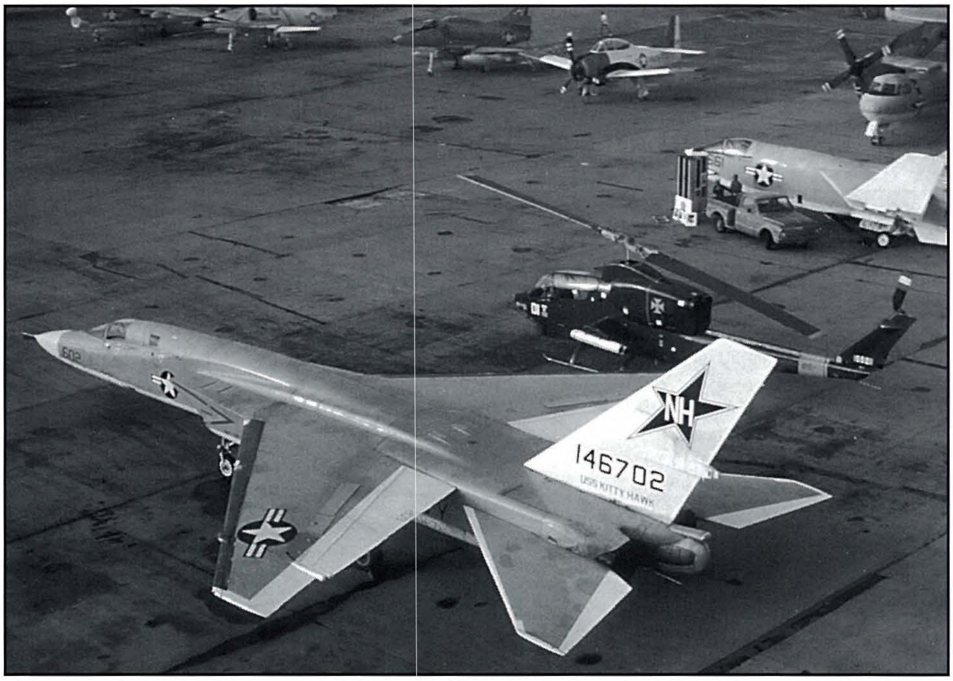
Above, RVAH-7 RA-5C BuNo 149276 in flight in 1972. (USN) At right, RVAH-7 RA-5C BuNo 149301 in flight in August 1973. (USN) Below, RVAH-7 RA-5C BuNo 149298 taxis at NAS Albany, GA, on 15 August 1973 in black tail markings only used during the squadron's second Kitty Hawk cruise. (William Swisher) Bottom, Forrestal-based RVAH-7 RA-5C BuNo 156625 with distintive black tail markings at NAS Lemoore, CA, on 13 October 1974. (William Swisher)


NH
149301
USS KITTY HAWK
701


NH
149298
USS KITTY HAWK
NAVY
RVAH-7
702


156625
USS FORRESTAL
NAVY
RVAH-7
701
158815

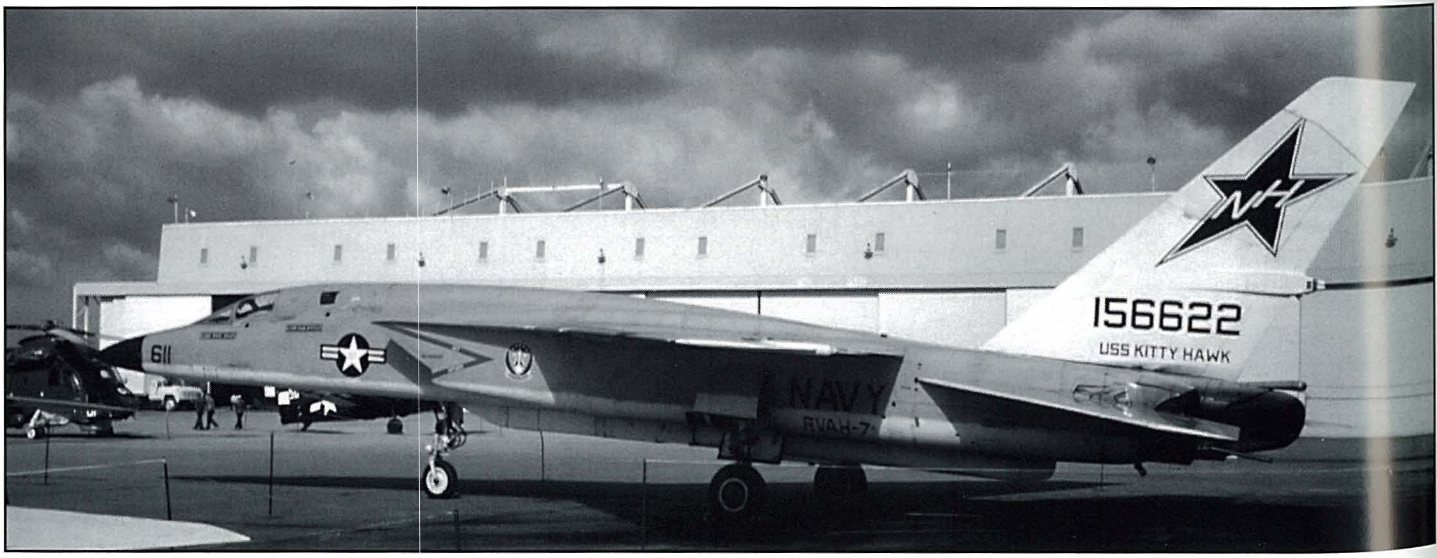

603
NAVY
RVAH-7
156618
USS FORRESTAL

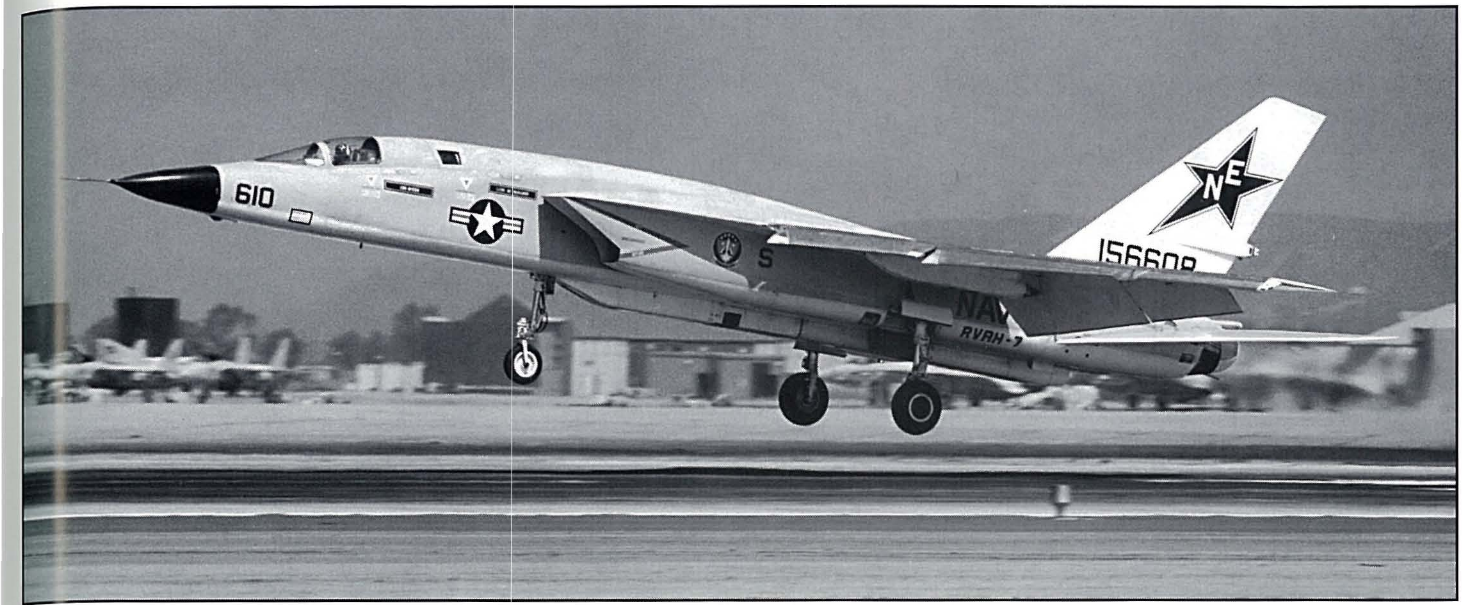

NH
146702
USS KITTY HAWK

Above, RVAH-7 RA-5C BuNo 156618 taxis at NAF Fallon, NV, in 1974. (Bob Lawson via Kaston) At left, for the third Kitty Hawk cruise, RVAH-7 used a black star on a white tail as a backdrop for CVW-11's "NH" tail code. BuNo 146702 in October 1976. (via Kaston) Below, RVAH-7 RA-5C BuNo 156622 at NAS Miramar, CA, in 1976. (Ginter)

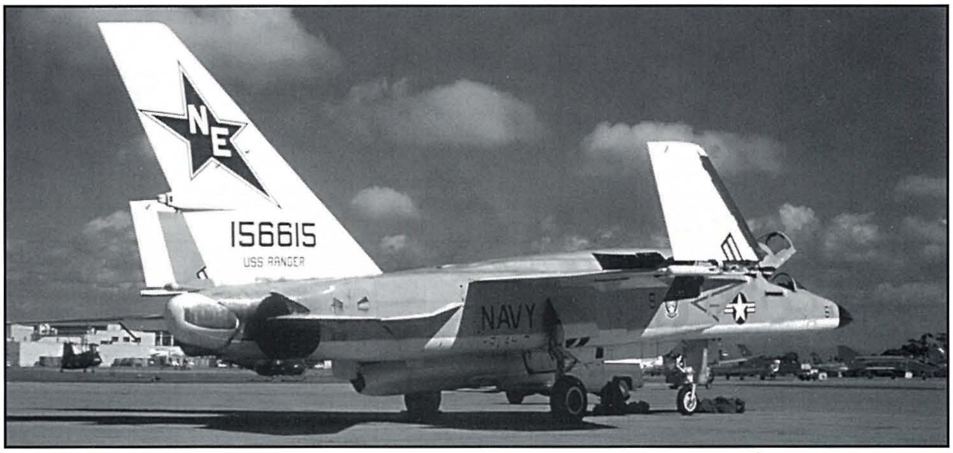
The carrier relieved the Saratoga at Rota, Spain, before taking-up station in the Med. The Forrestal was relieved by the Independence.

With the USS Kitty Hawk (CV-63) and CVW-11, RVAH-7 deployed to the Western Pacific from 25 October 1977 through 15 May 1978.


NH
156622
USS KITTY HAWK
611
NAVY
RVAH-7

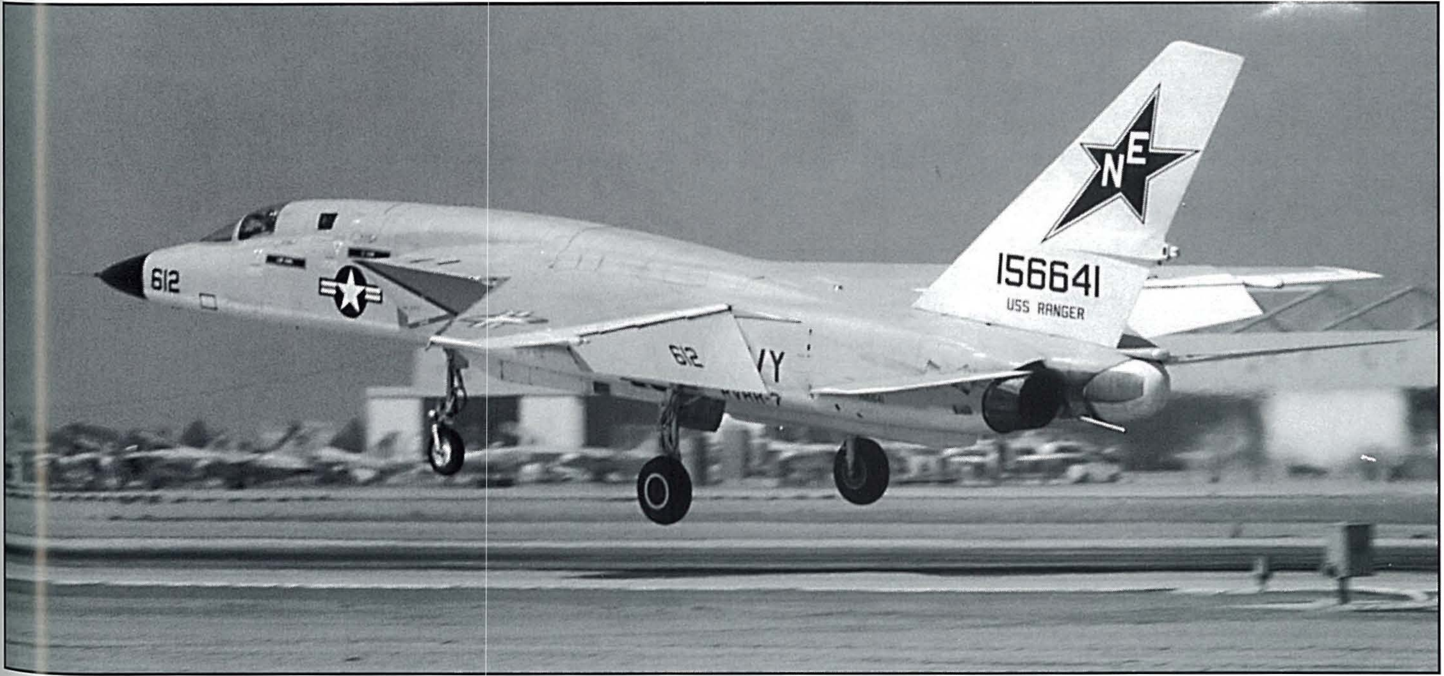


Above and bottom, RVAH-7 RA-5Cs BuNos 156608 and 156641 landing at NAS Miramar on 21 September 1979. (Bob Lawson via Kaston) Below, BuNo 156615 at NAS North Island on 14 February 1979. (via Kaston)



The Peacemakers and the Vigi's last deployment was aboard the USS Ranger (CV-61) from 21 February through 22 September 1979. The WestPac cruise was made as part of CVW-2.

RVAH-7 was honored with the last carrier arrested landing and catapult lauch of a RA-5C. These were accomplished by LCDR Habel and LT Parr who trapped in 156615 on Ranger on 17 August 1979 and by CDR Myers and LCDR McManamon in 156608 on 21 September 1979 launching from Ranger. RVAH-7 was disestablished on 28 September 1979.



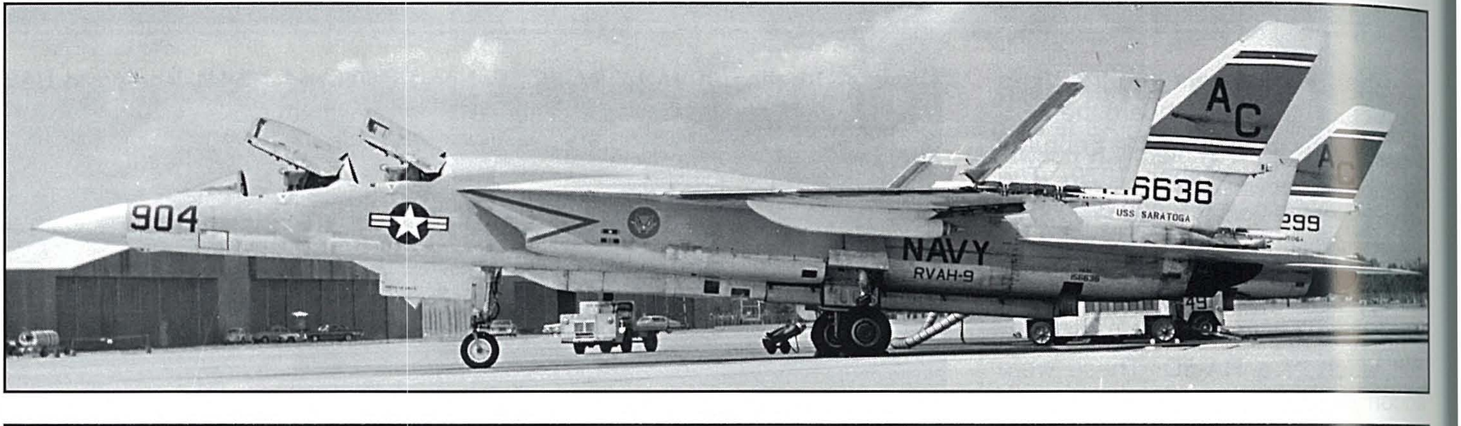
RVAH-9 "HOOT OWLS" / "HOOTERS"

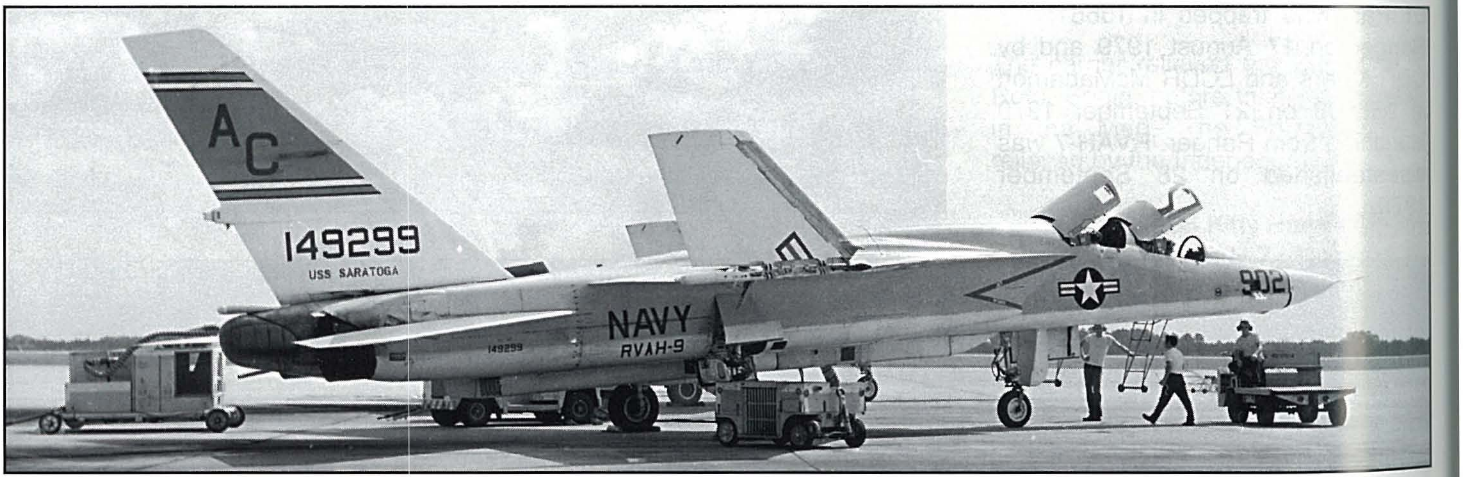
VC-9 was established on 1 January 1953 at NAS Sanford, FL, with two TBM-3Es and one P2V-2. These were soon replaced with new AJ-1s and two P2V-3Cs. On 1 November 1955, VC-9 was redesignated VAH-9 while flying AJ-2 Savages.

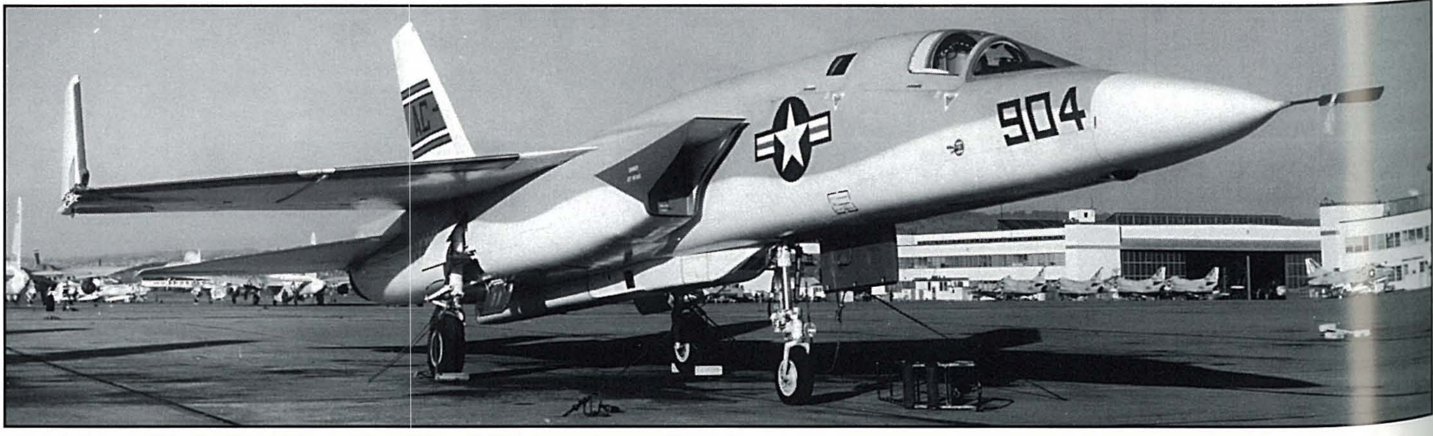
In January 1957, the squadron received its first A3D-2 Skywarrior. In April 1964, VAH-9 began the transition to the RA-5C, and on 3 June, VAH-9 was redesignated RVAH-9.

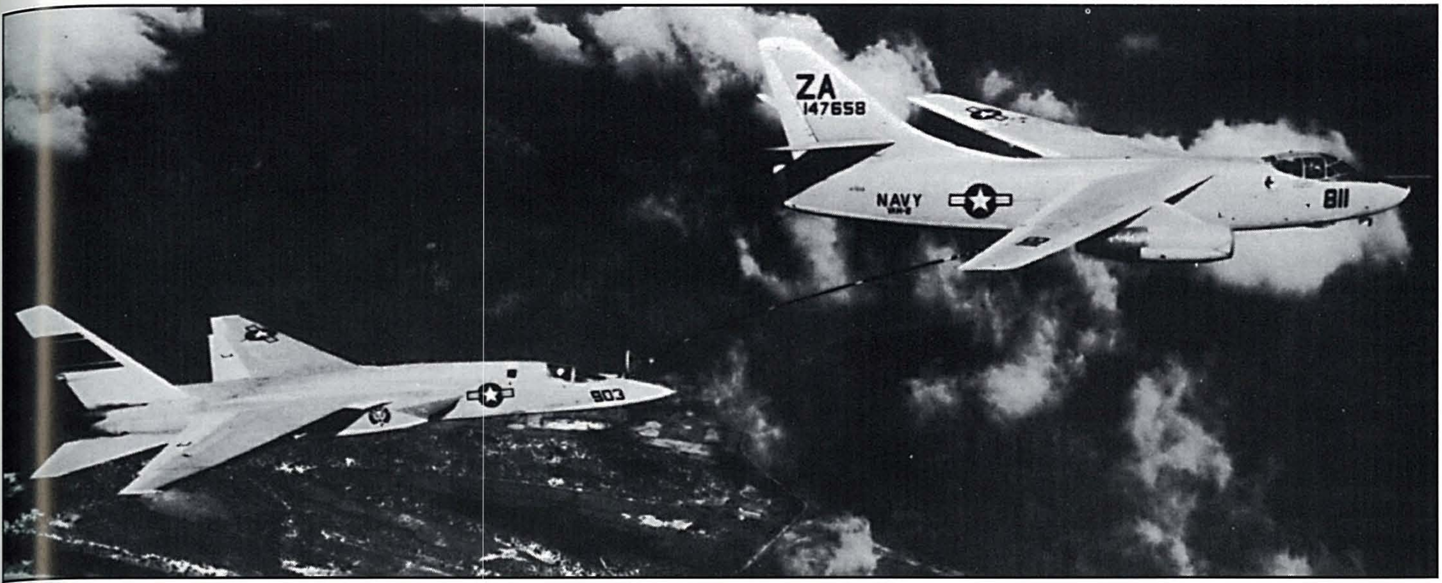
The unit's first Vigi cruise was aboard the USS Saratoga (CVA-60) from 28 November 1964 through 12 July 1965. During preliminary work-

Below, green-tailed Saratoga-based RVAH-9 RA-5Cs BuNos 156636 and 149299 in 1964. (Fred Roos) Below middle, RVAH-9 RA-5C BuNo 149299 in 1964. (Fred Roos) Bottom, RVAH-9 RA-5C BuNo 149277 at NAS Alameda on 27 November 1965. (William Swisher)







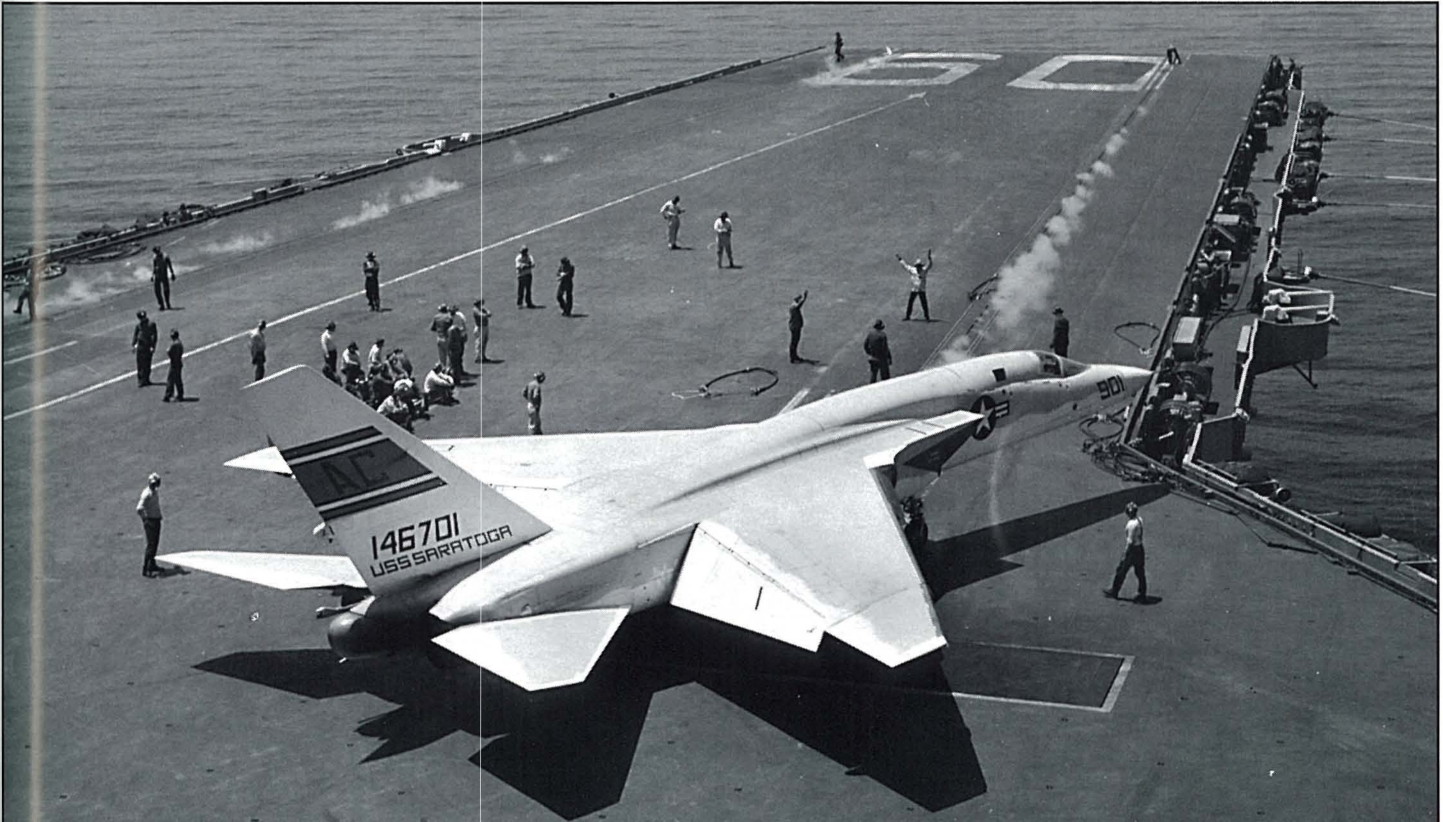


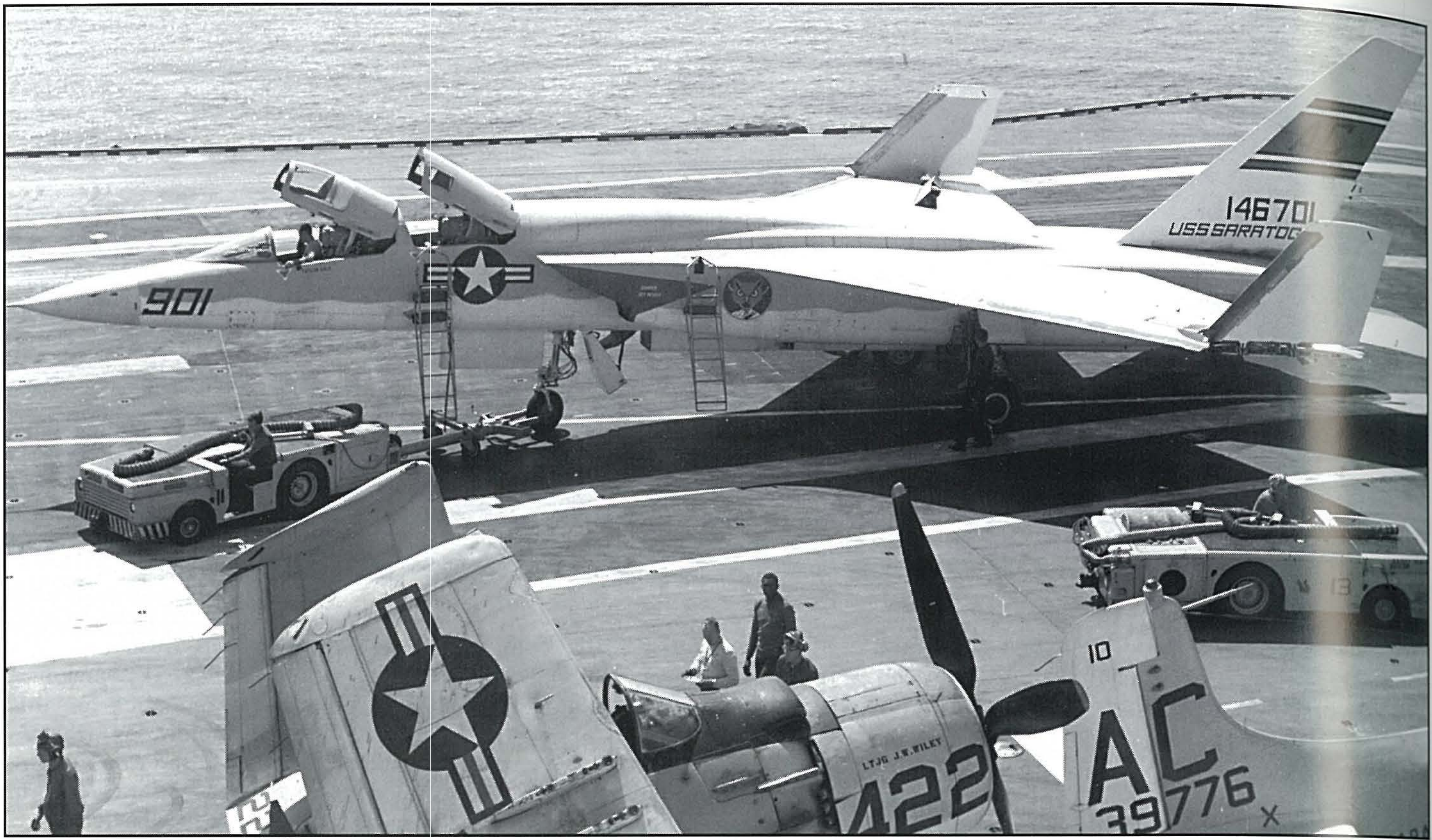
ups for the cruise, LCDR Smith and ADJC Carolyers ejected from RA-5C 149308 at Sanford. Enroute to the Med, the carrier first sailed to Roosevelt Roads, PR, where final work-ups were conducted.

A combat cruise aboard the USS Ranger (CVA-61) took place from 10 December 1965 through 25 August 1966. During the cruise, the Hoot Owls were responsible for both pre-strike reconnaissance and bomb damage assessment (BDA) in both South and North Vietnam. A total of 480 combat sorties were flown and crews received 101 Combat Medals, including 8 Distinguished Flying Crosses, 1 Bronze Star, 74 Air Medals, and 18 Commendation Medals. Although the squadron lost no aircraft in combat, 149312 was lost with crew to an operational accident.

On 2 May 1967, the unit joined CVA-60 again for a second Med deployment which lasted until 6 December 1967 with refresher training conducted prior to the cruise off Guantanamo Bay. The Sara relieved

Above, Ranger-based RVAH-9 RA-5C refuels from a VAH-2 Skywarrior in 1966. Tail code was "NK" for this deployment. (USN) Below, RVAH-9 RA-5C BuNo 146701 during the squadron's second cruise aboard CVA-60 in July 1967. (S. Peltz via N. Taylor)

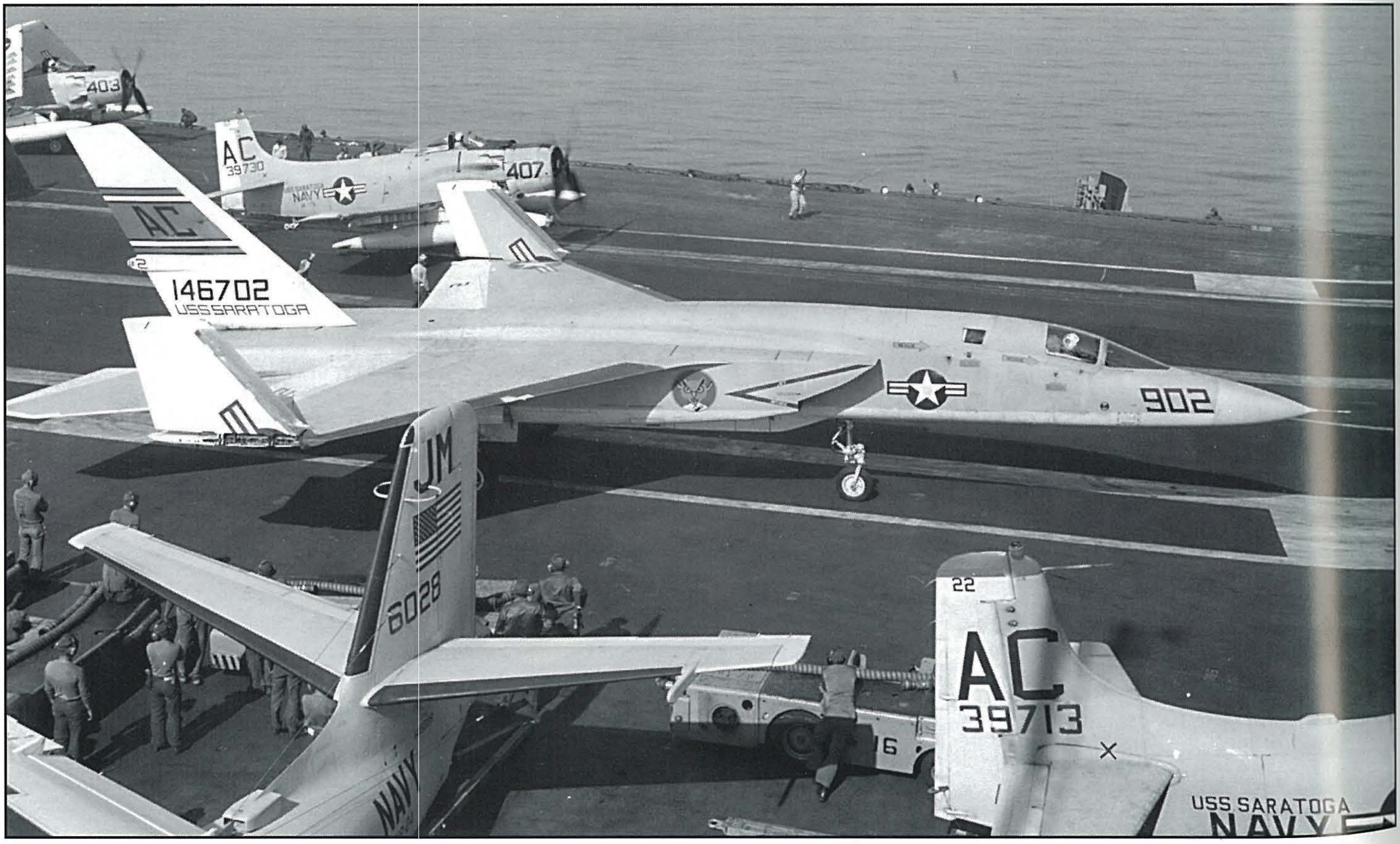


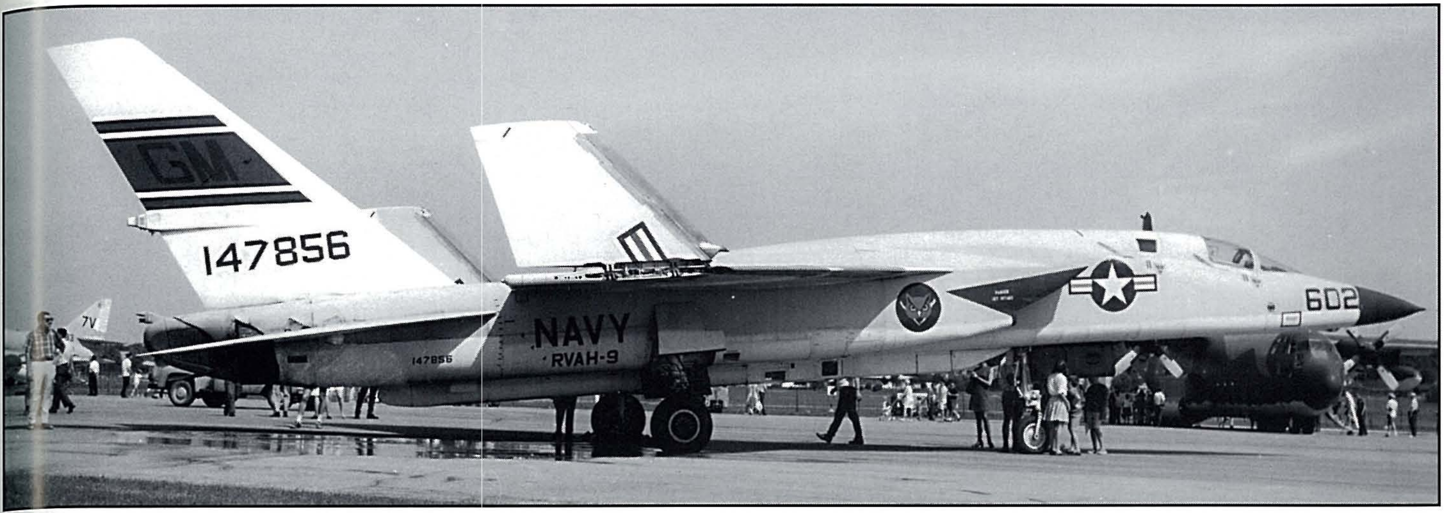


the Shangri-La at Pollensa Bay on 11 May. In early June, the United Arab Republic and Israel went to war during the Six Day War, and Heavy Nine was involved in monitoring the crisis.

On the return to CONUS, on 16 November, four of the squadron's five aircraft were launched for Rota, Spain, off of Costa del Sol. After a four day layover, all four Vigi's depart-

Above, RVAH-9 RA-5C BuNo 146701 being towed on the deck of CVA-63 in July !967. (Steve Peltz via Kaston) Below, RVAH-9 RA-5C BuNo 146702 dwarfs VA-176 Skyraiders in July 1967. (Peltz via Taylor)

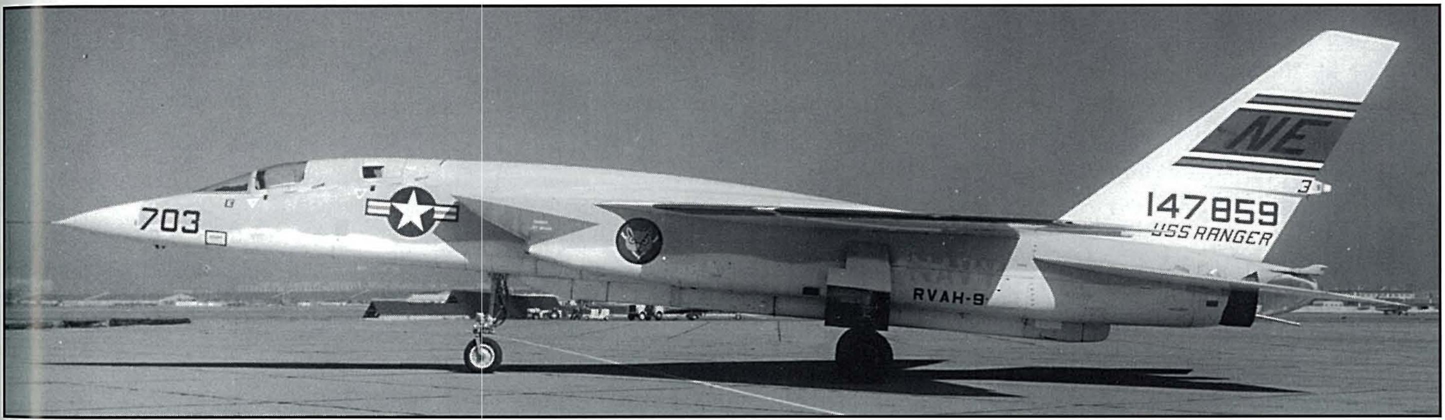


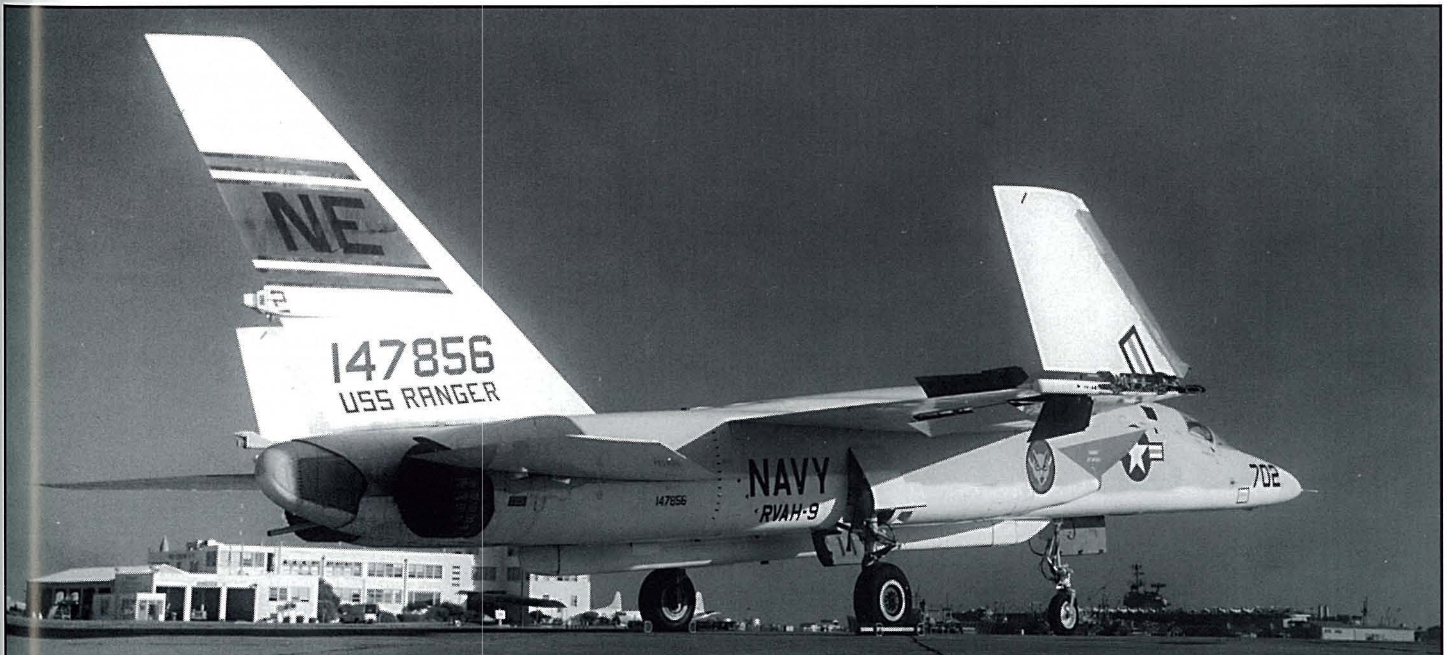

GM
147856
7V
NAVY
RVAH-9
147856
602

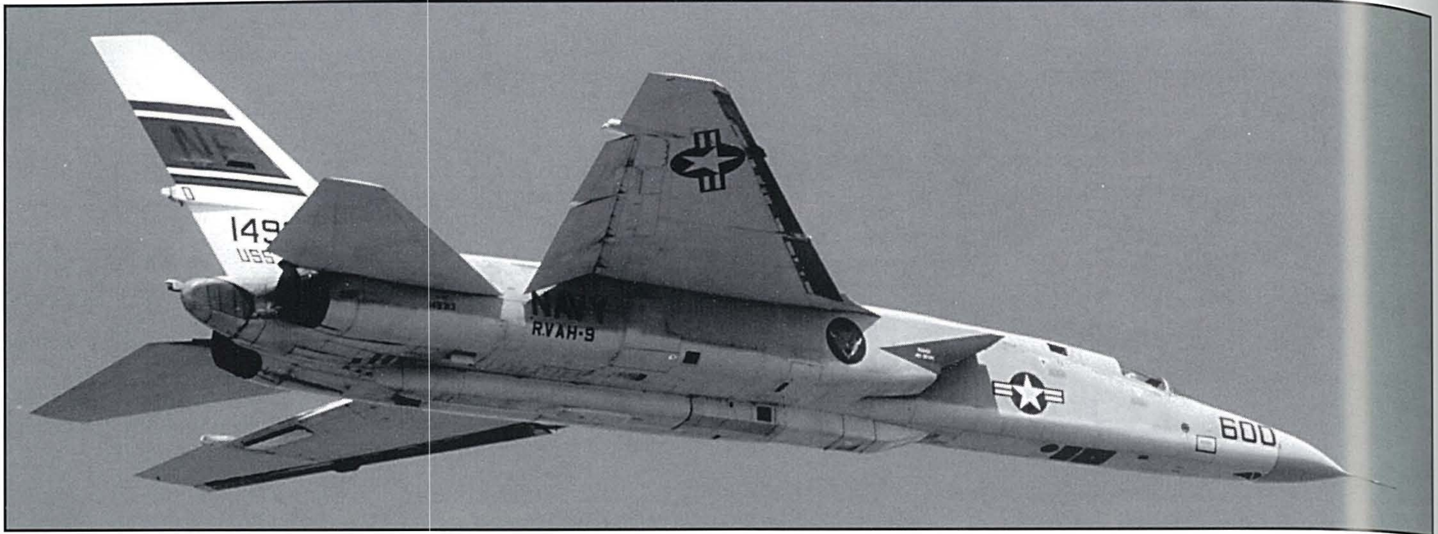
ed Rota, destined for NAS Lajes in the Azores. The next day they departed for CONUS. Two of the four aircraft flew non-stop 2,800 miles to NAS Sanford, after tanking from Marine KC-130 tankers. The other two aircraft flew on to Sanford after refueling in Bermuda. The 5th Vigilante flew off the Saratoga while off the eastern United States.

After relocating to NAS Albany,

Above, RVAH-9 RA-5C BuNo 147856 in August 1969 with the squadron's tail code of "GM" on a large green stripe. (P. Stevens via Menard) Below, Ranger-based RVAH-9 RA-5C BuNo 147859 and 147856 at NAS Alameda on 23 October 1968. (William Swisher)


NE
3
147859
USS RANGER
703
RVAH-9


NE
147856
USS RANGER
NAVY
RVAH-9
147856
702



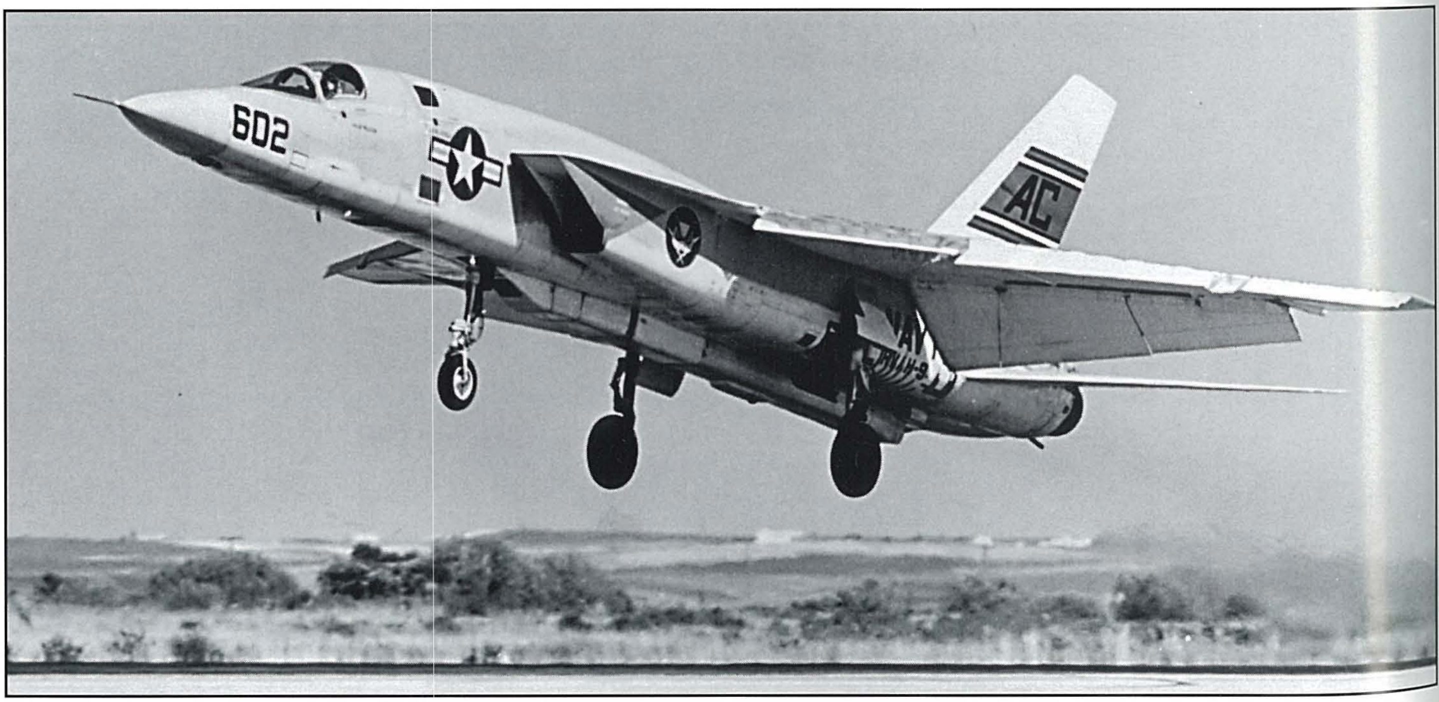
GA, the squadron made preparation for its second deployment to Southeast Asia aboard the USS Ranger (CVA-61). This cruise commenced on 26 October 1968 and was terminated on 17 May 1969 with the squadron spending 91-days on the line. After the shoot-down of a Navy EC-121 by the North Koreans on 15 April 1969, RVAH-9 and Ranger were ordered to the Sea of Japan and returned home after the crisis ended.

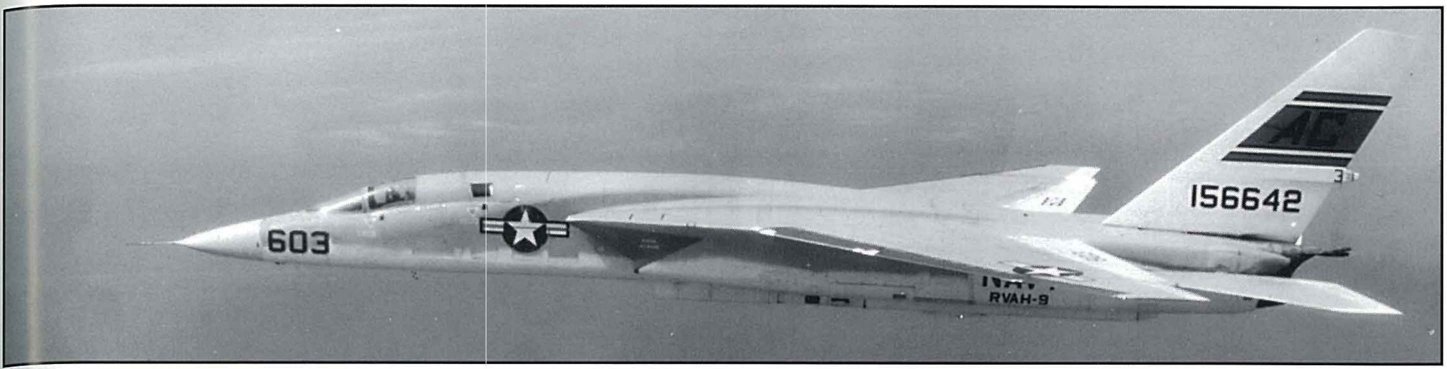
From 17 June through 11 November 1970, the Hooters returned to the Med aboard the Saratoga for a third time. On 24 June, off the Azores, Russian TU-95 Bears were intercepted. On 19 July, RA-5C fuel cells were ejected out the linear bomb-bay when the aircraft was catapulted. This resulted in a ball of fire on the flight deck, but the Sara sustained minimal damage and the Vigi was unharmed. On 12 September, a crisis in Jordan demanded the ship's attention and on 25 September the Sara hosted President Nixon for a second time. The ship sailed for home on 2 November 1970.

On 7 June 1971, RVAH-9 commenced its fourth deployment aboard CVA-60. First stop was Greenock, Scotland, followed by Operation Magic Sword 11 on 19 June, and Rota, Spain, on 22 June. As test ship for the new CV-concept, CVA-60 conducted Tactical ASW operations until 5 August when liberty was taken in Athens. The carrier left the Med on 12 October and in concert with the USS Wasp off Bermuda it conducted the final phase of CV evaluation between 20 to 27 October. RVAH-9 and Sara returned to port on 31 October 1971.

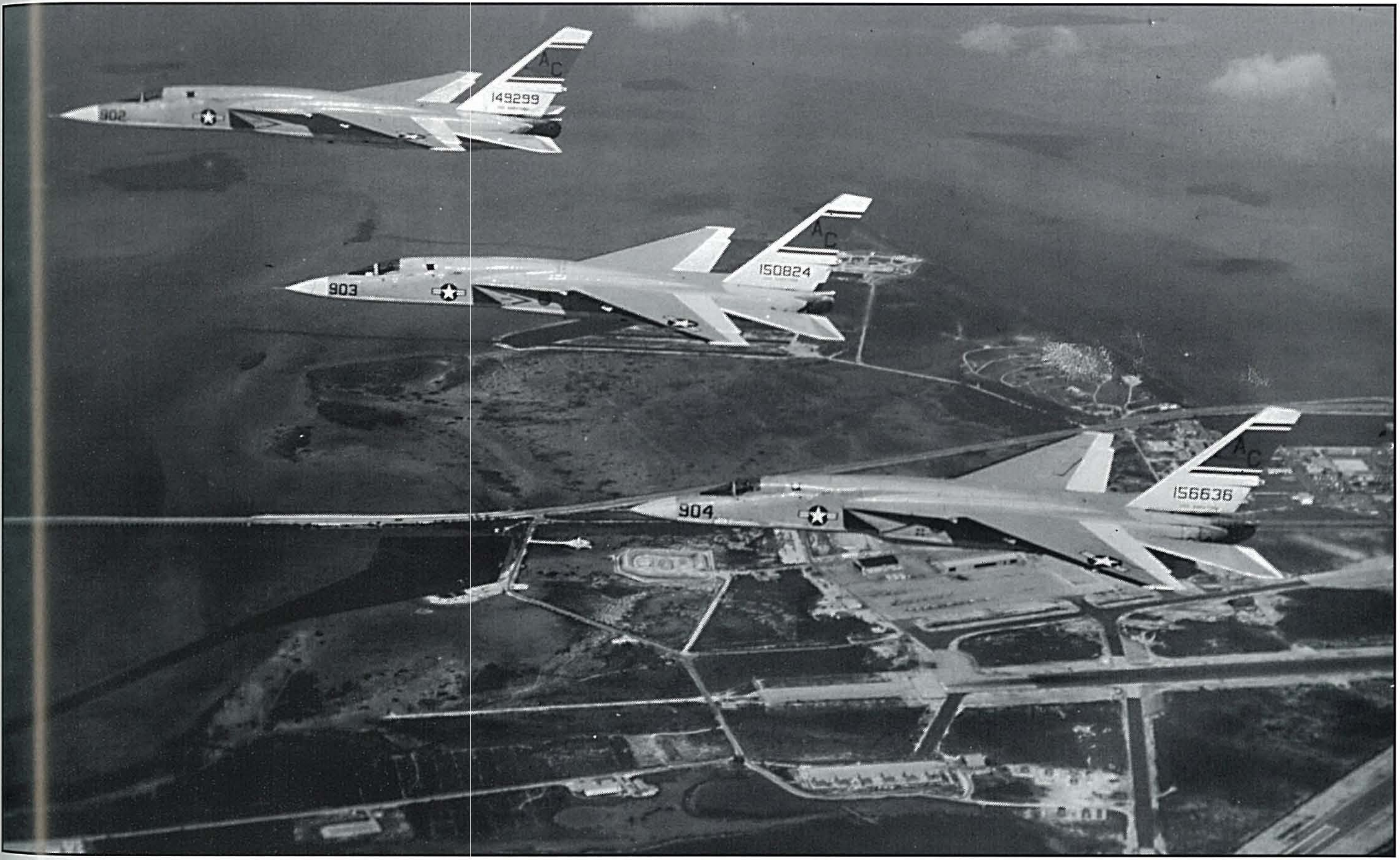
Above, Ranger-based RVAH-9 RA-5C BuNo 149313 over NAF Atsugi on 28 April 1969 with "NE" tail code. (Toyokazu Matsuzaki) Below, Saratoga-based RVAH-9 RA-5C landing at NS Rota, Spain, on 13 September 1970. (USN via Fred Roos)

Another Med deployment was




603
156642
AC
NAVY
RVAH-9

Above, RVAH-9 RA-5C 156642 in flight in 1972. (USN via James Taylor) Below, three RVAH-9 RA-5Cs in formation. (USN via James Taylor) Bottom, Forrestal-based RVAH-9 RA-5C BuNo 156627 in 1972-73. Tail code "AA" painted over green tail stripe. (via Burger)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156636
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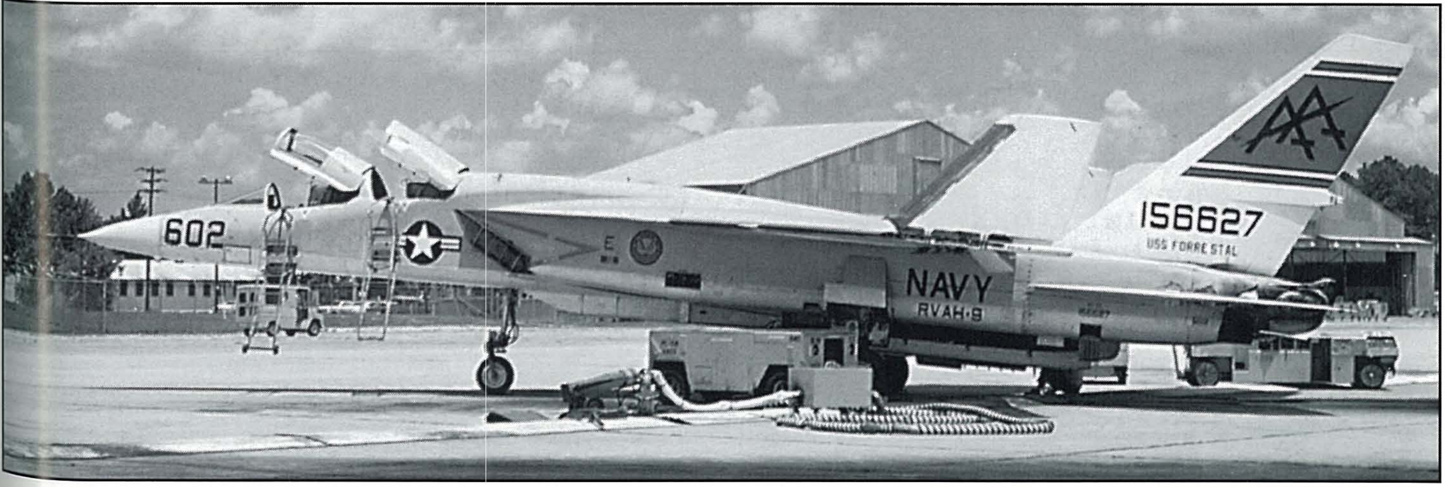
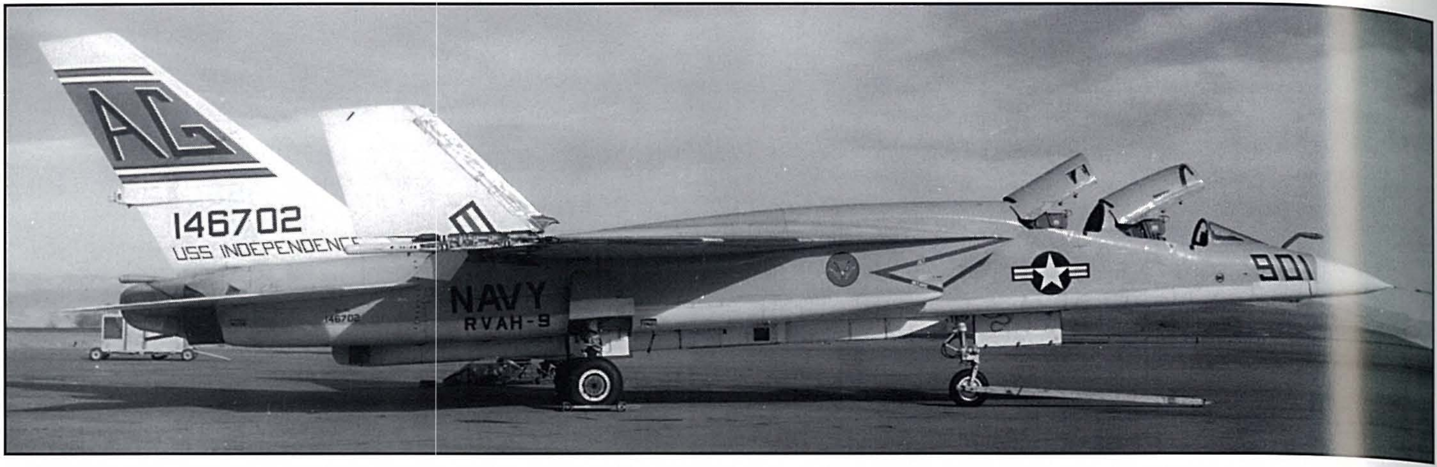

602
156627
USS FORRESTAL
NAVY
RVAH-9
AA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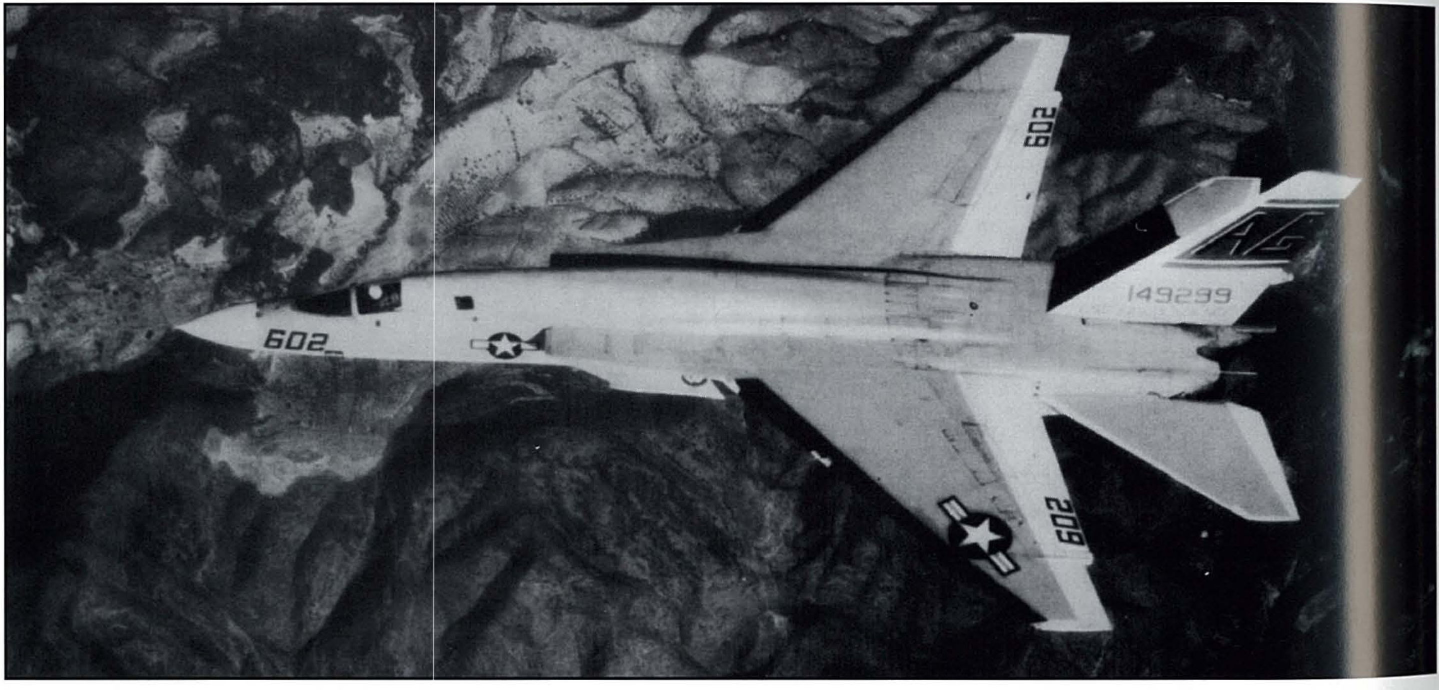
146702
USS INDEPENDENCE
NAVY
RVAH-9
901

conducted aboard the USS Forrestal (CVA-59) from 22 September 1972 through 6 July 1973. Once again the squadron maintained a shore detachment at Rota. In January 1974, the unit transferred to NAS Key West, FL.

As part of CVW-7, RVAH-9 deployed to the Mediterranean aboard the USS Independence (CV-62) from 19 July 1974 through 21 January 1975. For most of the cruise the squadron operated from NS Rota Spain.

The Hoot Owls made a final

Above, Independence-based RVAH-9 RA-5C BuNo 146702 at NAF Fallon, NV, in March 1973 with refueling probe extended. (D. Olson via Swisher) Below, Indy-based RVAH-9 RA-5C BuNo 149299 in flight in 1975. (USN) Bottom, Nimitz-based RVAH-9 RA-5C BuNo 156628 at NAS Miramar, CA, in October 1975. (Fred Roos)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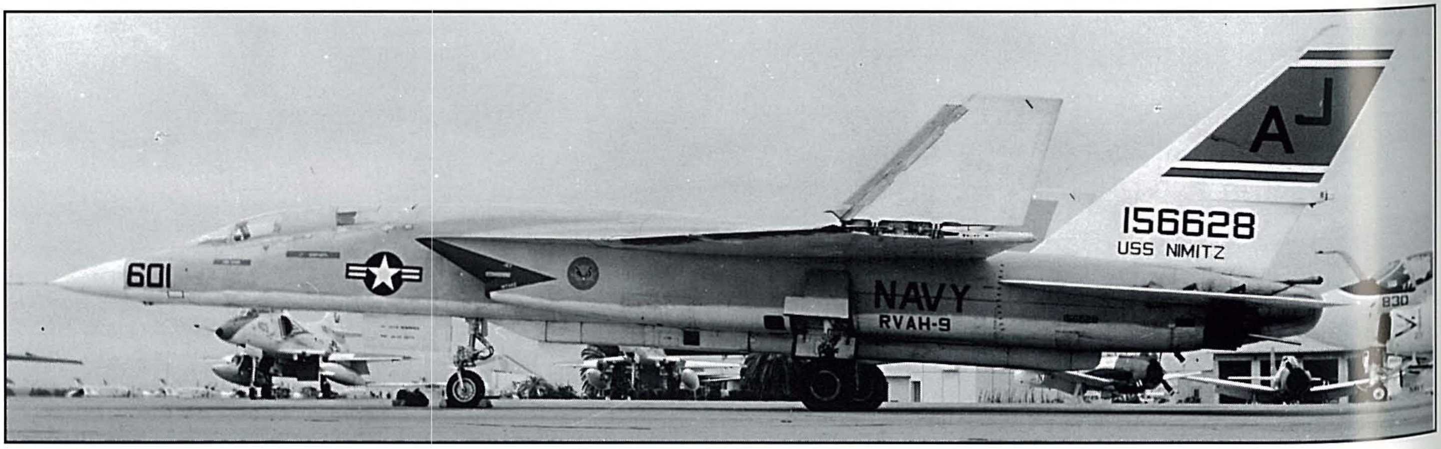
149299


AJ
156628
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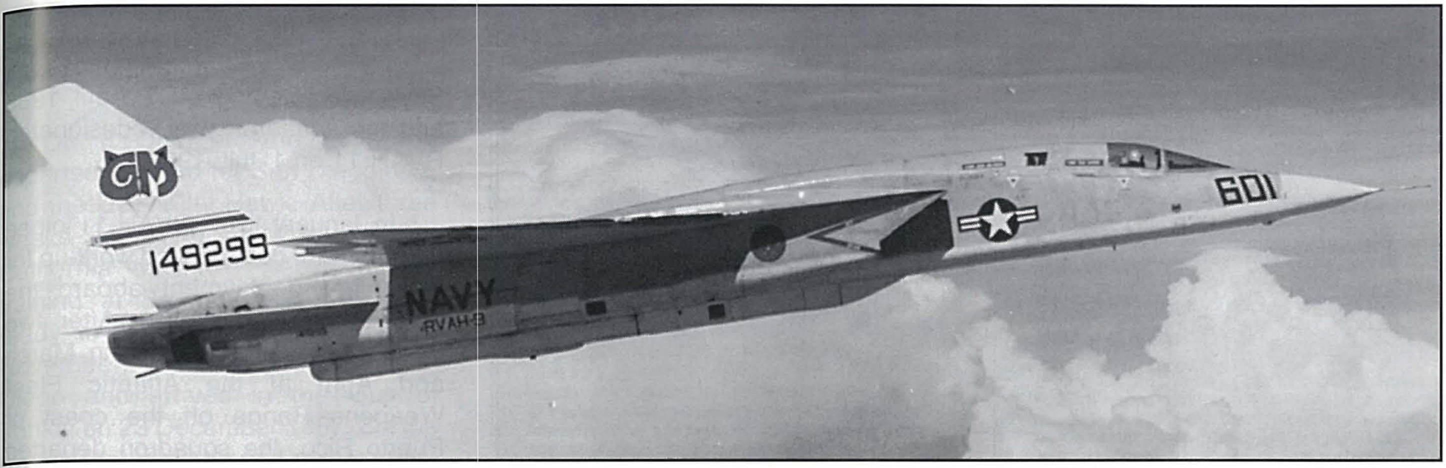
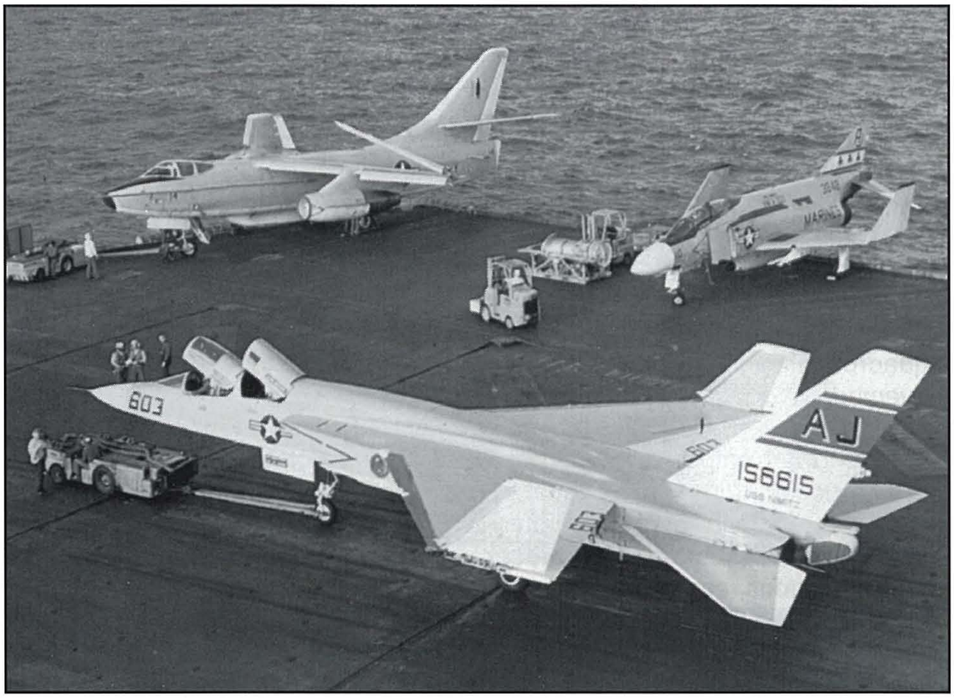
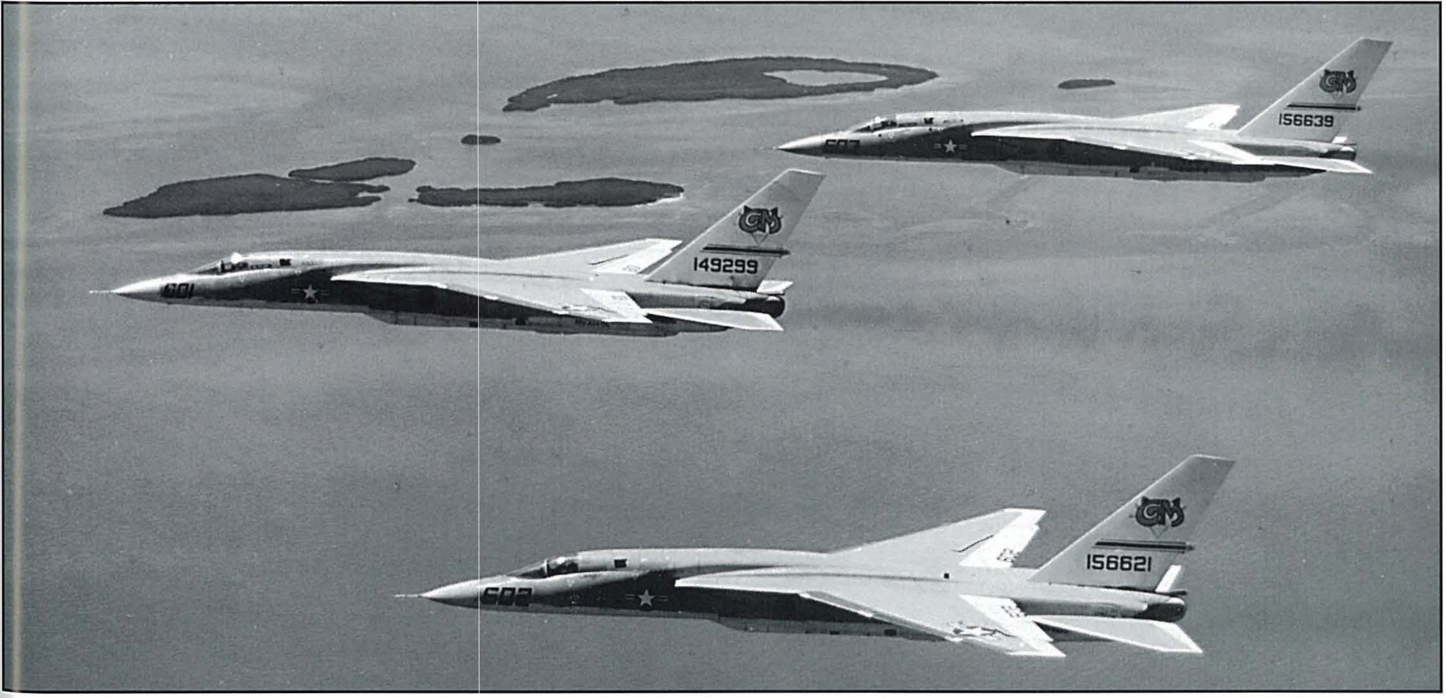
NAVY
RVAH-9
601



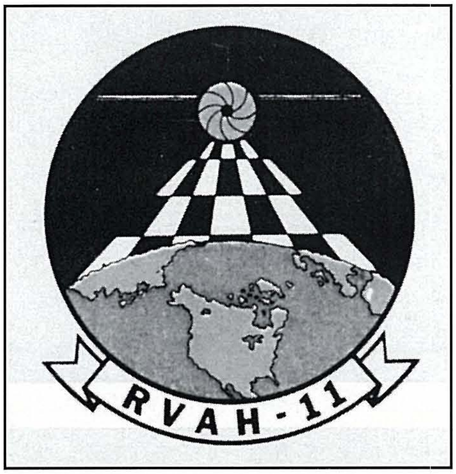
deployment to the Med from 7 July 1976 through 7 February 1977 while aboard the USS Nimitz (CVN-68). This was the first deployment of the nuclear-powered Nimitz and the last for the Hoot Owls. The ship also hosted a German Navy delegation and visited Scotland and England. The squadron was disestablished on 30 September 1977.

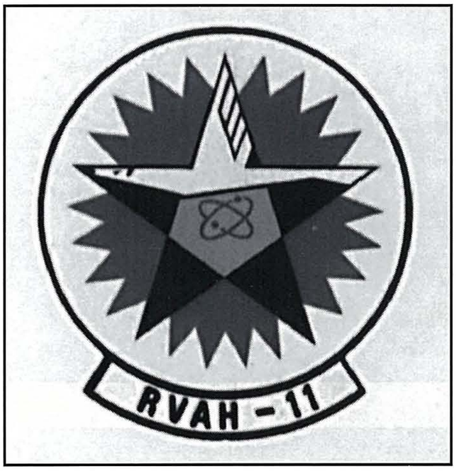


At top, RVAH-9 RA-5C BuNo 149299 with orange stylized squadron tailcode of GM shaped like the squadron insignia. The thin green stripe on the tail was green. (USN) At right, RVAH-9 RA-5C BuNo 156615 being spotted on Nimitz in 1977. (USN) Below, three RVAH-9 RA-5Cs BuNos 156639, 149299 and 156621 over the Keys. (via Gene Holmberg)



RVAH-11 "CHECKERTAILS"





VC-8 was established on 3 December 1951 at NAS Patuxent River, MD. Composite Squadron Eight was initially equipped with three P2V Neptunes and five AJ-1 Savages. In July 1955, the squadron was transferred to NAS Sanford, FL, and was redesignated Heavy Attack Squadron Eleven (VAH-11) on 1 November 1955.

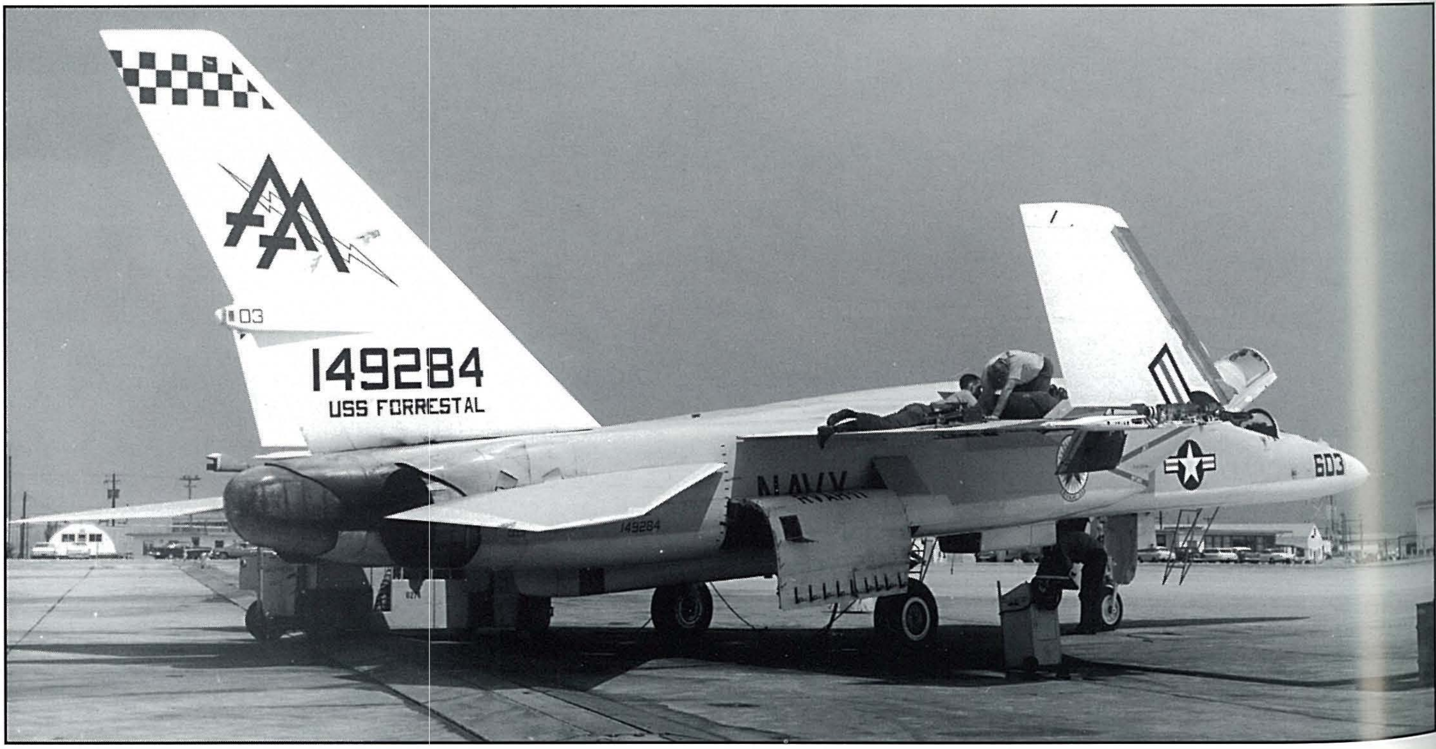
When the Composite Squadrons were redesignated Heavy Attack Squadrons, all East Coast squadrons received odd numbers and all West Coast squadrons received even numbers. Thus, VC-8 was redesignated VAH-11, the next available odd number.

The A3D-2 Skywarrior replaced the Savage in November 1957. After making three deployments with the Skywarrior, VAH-11 was divided into two units in order to meet HATWING One's Second Fleet operational commitments while VAH-1, VAH-3, and VAH-7 transitioned to the A3J-1 Vigilante. For this purpose, VAH-11 Detachment Eight was established on 6 August 1962. On 4 January 1965 Det 8 was disestablished.

The RA-5C Vigilante replaced the Skywarrior starting on 7 April 1966 and the squadron was redesignated RVAH-11 on 1 July 1966.

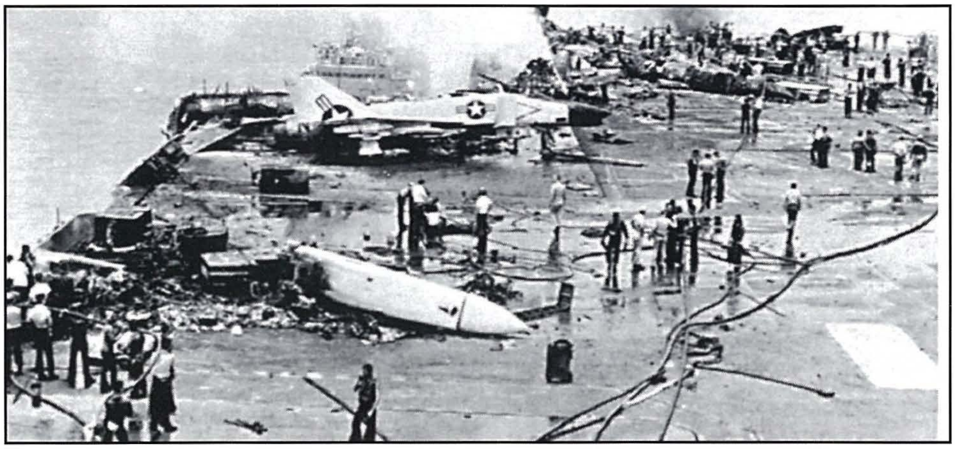
In January 1967, RVAH-11 joined CVW-17 and commenced work-up for a combat deployment aboard the USS Forrestal (CVA-59). After two three-week training cycles in March and April at the Atlantic Fleet Weapons Range off the coast of Puerto Rico, the squadron departed Norfolk, VA, on 6 June 1967. On 27 July 1967 at 1052 hours, a tragic fire ravaged the Forrestal in the Gulf of Tonkin, killing 132 men and forcing the ship out of action and back to Norfolk for repairs. Three Checkertails aircraft, BuNos 148932, 149284, and 149305, were destroyed in the fire and two more were extensively damaged by the salt water used to fight the fires. The squadron

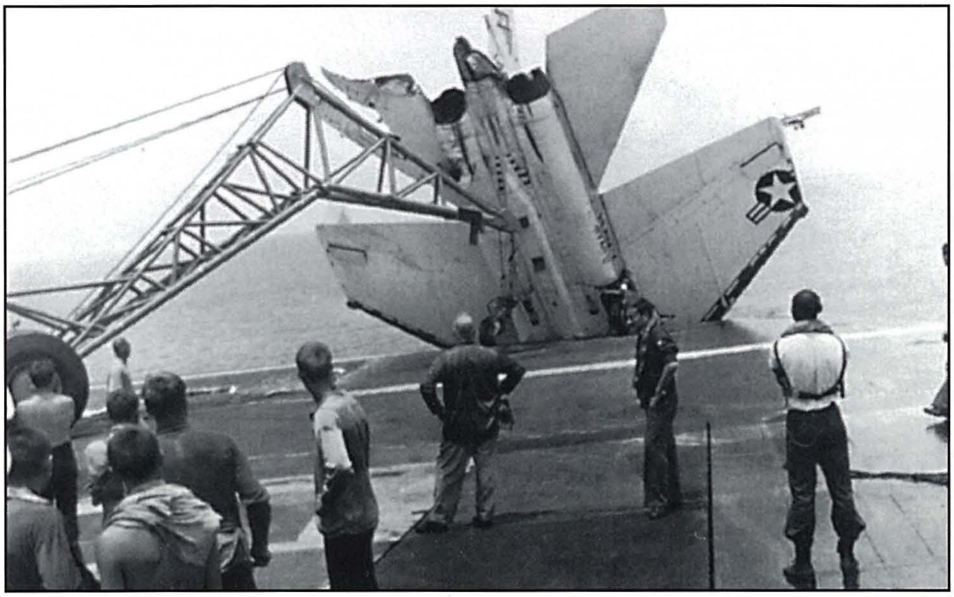
Below, RVAH-11 RA-5C BuNo 149284 at NAS Sanford, FL, on 26 May 1967 during maintenance with sensor station 4 removed and the forward engine door open. Tail markings including lightning bolt were black. (William Swisher)



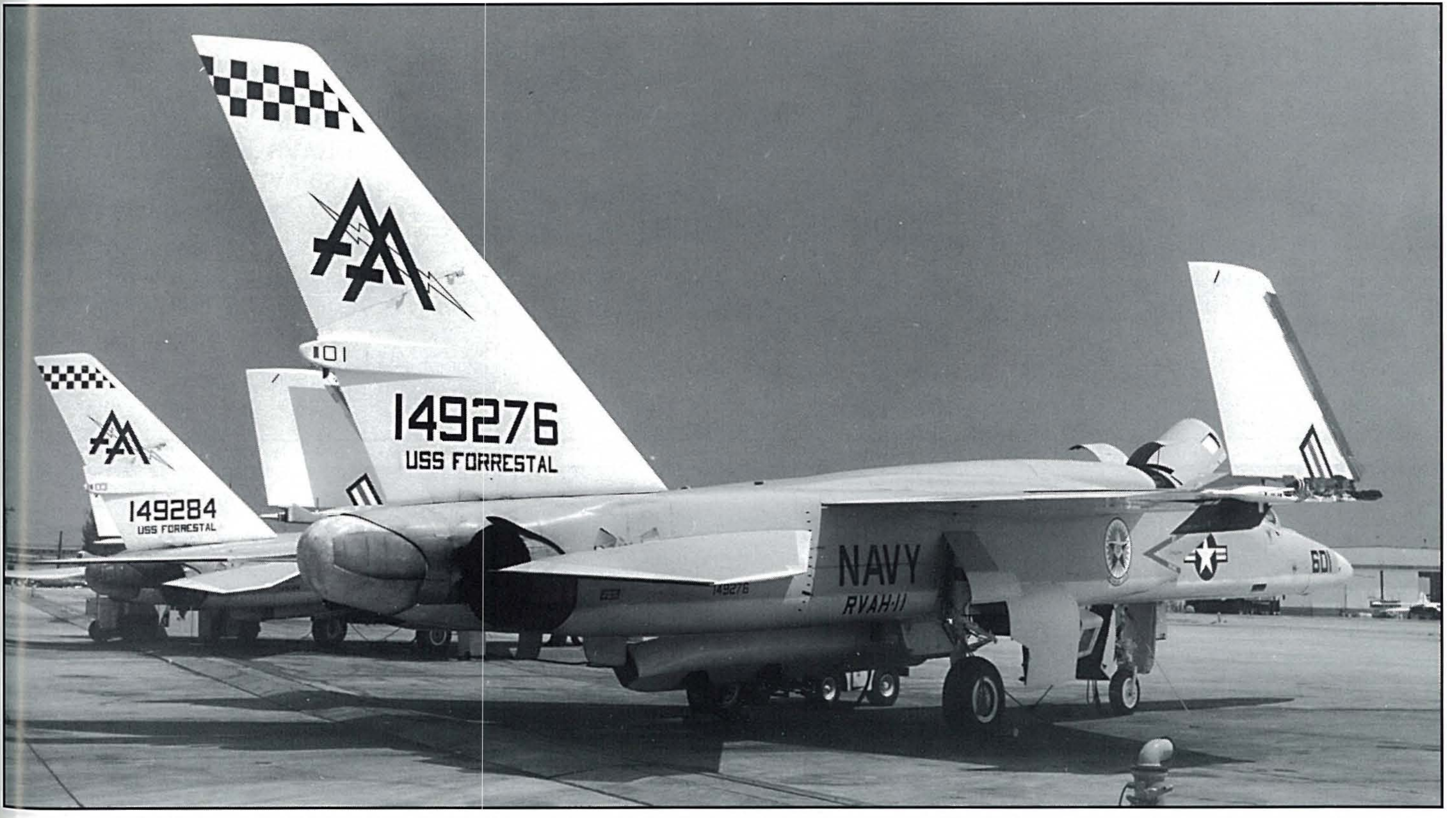
returned to Sanford on 12 September to re-equip for immediate re-deployment to Southeast Asia.

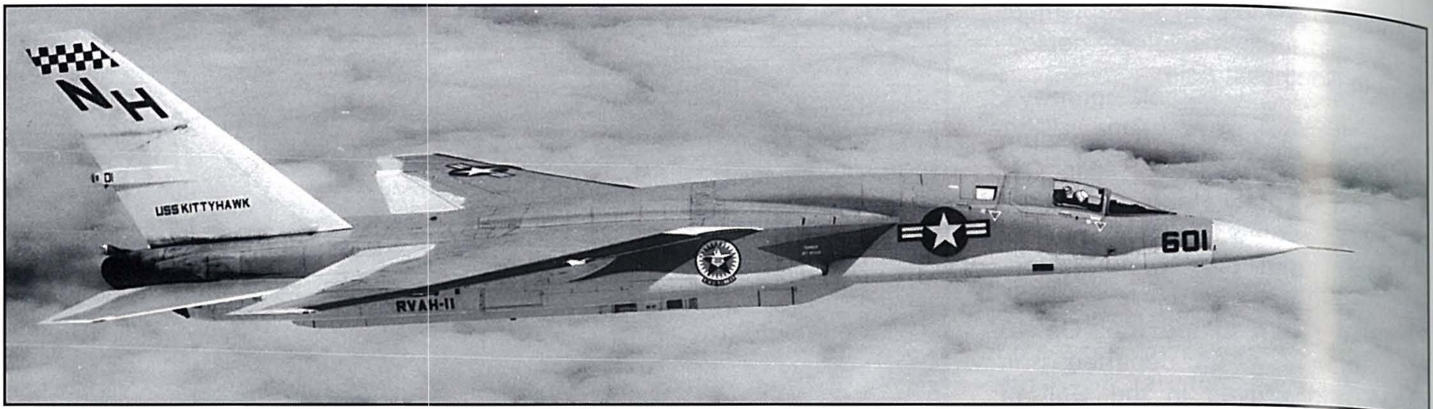
On 6 October, the squadron departed Sanford for San Diego, CA, and the USS Kitty Hawk. After three weeks operating off the coast of California and two weeks further training at Sanford, RVAH-11 was ready to return to the war. On 18 November, CVA-64 departed San Diego and arrived in the Gulf of Tonkin on 23 December 1967. On the way to Vietnam, the unit received the Air Wing's highest score during the ORI. Because of heightened world tension and the greater demands placed on the Navy during the Pueblo Crisis, the ship conducted combat air





At top right, burnt-out flight deck of the USS Forrestal on 28 July 1967 with the remains of a RVAH-11 RA-5C in the foreground. (USN) At right, another RVAH-11 RA-5C is pushed over the side after the fire was put out. (USN) Below, RVAH-11 RA-5C BuNo 149276 undergoing pre-deployment maintenance at NAS Sanford, FL, on 26 May 1967. Checkerboard on the tail was black. (William Swisher)

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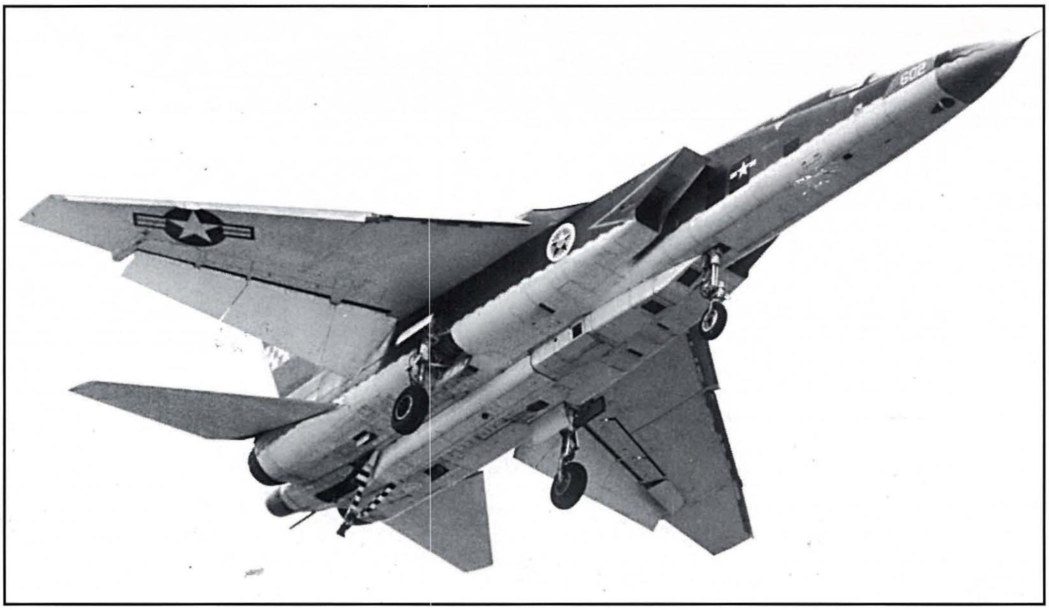
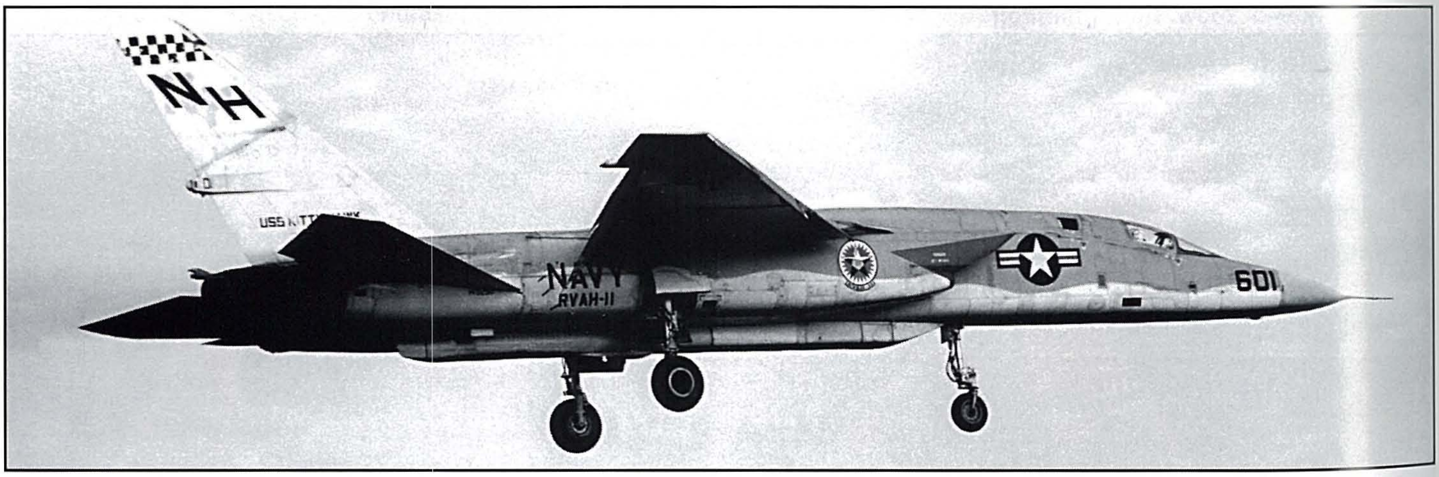
USS KITTYHAWK
RVAH-11
601



Above, Kitty Hawk-based RVAH-11 RA-5C 149258 in flight over the Pacific in October 1967. (USN via Barry Miller) At left, camouflaged RVAH-11 RA-5C with checkerboard painted over the S.E.A. camo scheme on the tail is believed to be one of the replacement aircraft obtained from a sister squadron in order to get the squadron back to sea after the Forrestal fire. (via Barry Miller) Below, RVAH-11 RA-5C BuNo 149258 landing at NAF Atsugi on 3 April 1968. (T. Matsuzaki) Bottom, RVAH-11 RA-5C BuNo 151628 taxis at NAS North Island on 15 November 1967. (William Swisher)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RVAH-11
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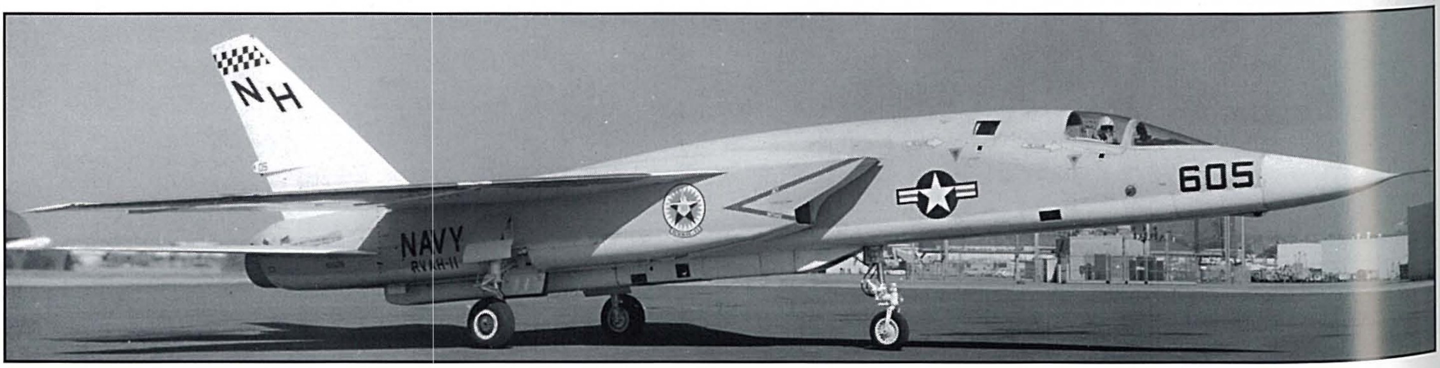
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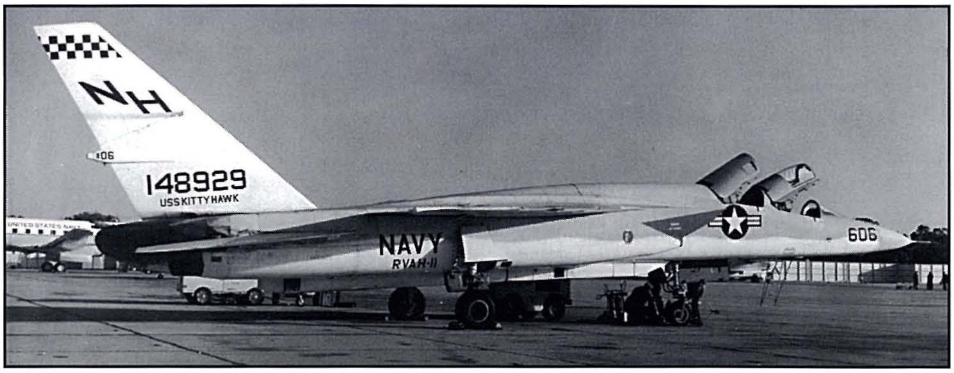
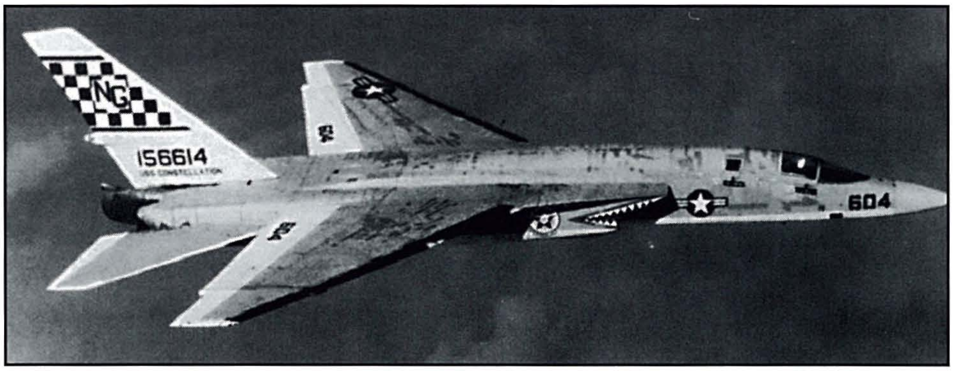
RVAH-11
605

operations for sixty-two consecutive days before returning to port in late February 1968. Three more combat line periods followed with the squadron flying a record number of 518 combat reconnaissance sorties. One aircraft, RA-5C 149283, was lost to AAA on 18 May 1968 and CDR C. N. James and LCDR V. D. Monroe both became POWs.

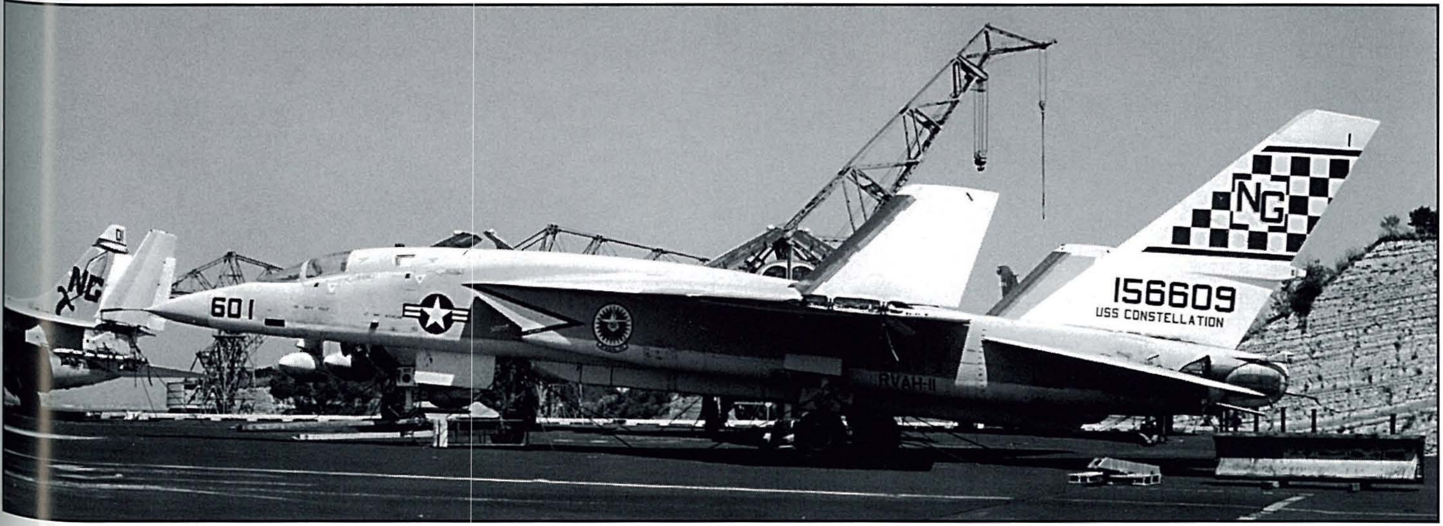
Combat flight operations were completed on 1 June 1968 and the squadron aircraft were TransPac'd to the squadron's new home, NAS Albany, GA.

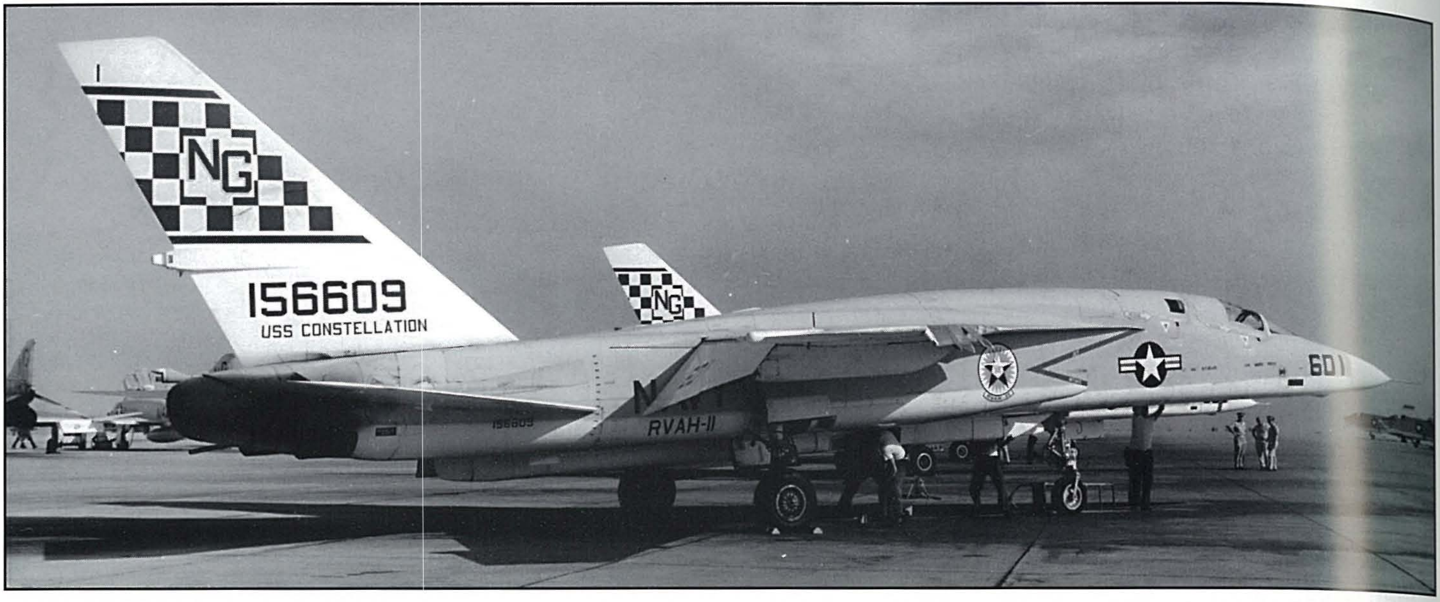
After a short training cycle, the squadron departed Albany on 6 November 1968 to begin air wing shipboard operations in preparation for another combat cruise aboard Kitty Hawk. In January 1969, the squadron became the first Vigilante unit to receive the Presidential Unit Citation for its exceptional performance during its previous WestPac combat deployment. During the





At top right, RVAH-11 RA-5C BuNo 148929 at NAS North Island, CA, on 26 November 1968 with a RVAH-1 insignia on the fuselage side. (William Swisher) Above right, RVAH-11 RA-5Cs with "AG" tail code breaking for landing in 1970. (USN) At right, RVAH-11 RA-5C BuNo 156614 in 1971 with sharkmouth intakes. (USN) Below, RVAH-11 RA-5C BuNo 156609 aboard CVA-62 on 2 April 1972 at Yokosuka, Japan. (Toykazu Matsuzaki)

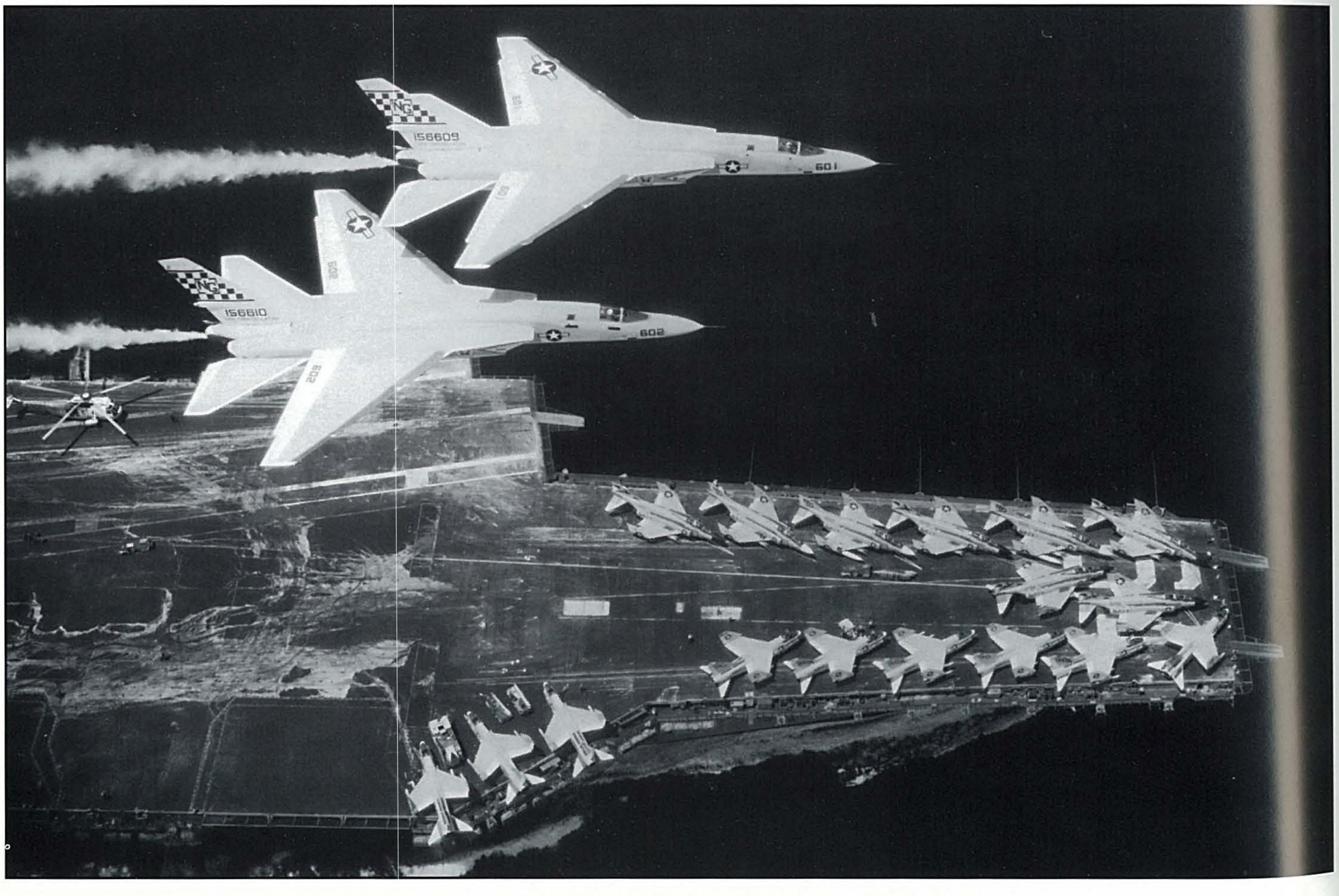




Above, RVAH-11 RA-5C BuNo 156609 at NAS Miramar, CA, on 20 August 1971. (William Swisher) Below, RVAH-11 RA-5Cs BuNos 156610 and 156609 dump fuel over the USS Constellation in May 1972. (USN)

deployment the squadron completed five highly successful line periods and one extended period on Defender Station off Korea following an incident in which the North Koreans shot down an EC-121M. The squadron returned to Albany in September 1969. For this cruise, RVAH-11 received a Navy Unit Commendation for operations in Southeast Asia, the Vietnamese Cross of Gallantry and the Meritorious Unit Commendation.

Upgraded aircraft were received starting in November 1969 in preparation of a Mediterranean deployment aboard the USS Independence. CVA-62 left port on 23 June 1970 and ORI was conducted at the Atlantic Fleet



Weapons Range off the coast of Puerto Rico. In transit to the Med, on 22 July, RA-5C 156611 was lost at sea off the deck of the Indy. In September 1970, strained relations in the Middle East caused the squadron and ship to spend 32 days on line monitoring the crisis. The squadron returned to NAS Albany on 31 January 1971 and was presented with the Navy Meritorious Unit Commendation for the "professionalism, determination, and resourcefulness displayed in easing the tensions in the Middle East while they were aboard the USS Independence."

After an intense training cycle in NAS Albany and with Air Wing Nine at NAS Fallon, NV, RVAH-11 deployed aboard the USS Constellation (CVA-64) in August 1971. After a successful five-week ORI, the squadron returned to NAS Albany for three weeks before returning to San Diego where the Connie departed to Southeast Asia. The squadron operated on Yankee Station with normal support operations in Laos and South Vietnam for the first six line periods. In April 1972, the carrier was in port at Yokosuka, Japan, in preparation for return to CONUS when it was recalled to Vietnam due to the last major Communist offensive in South Vietnam prior to the U.S. withdrawal. The recce hops flown by RVAH-11 included the first tactical reconnaissance photographs of Haiphong Harbor since the bombing halt of 1968. The extended cruise lasted three more months including a 47-day at sea period. The squadron returned to CONUS on 1 July 1972.

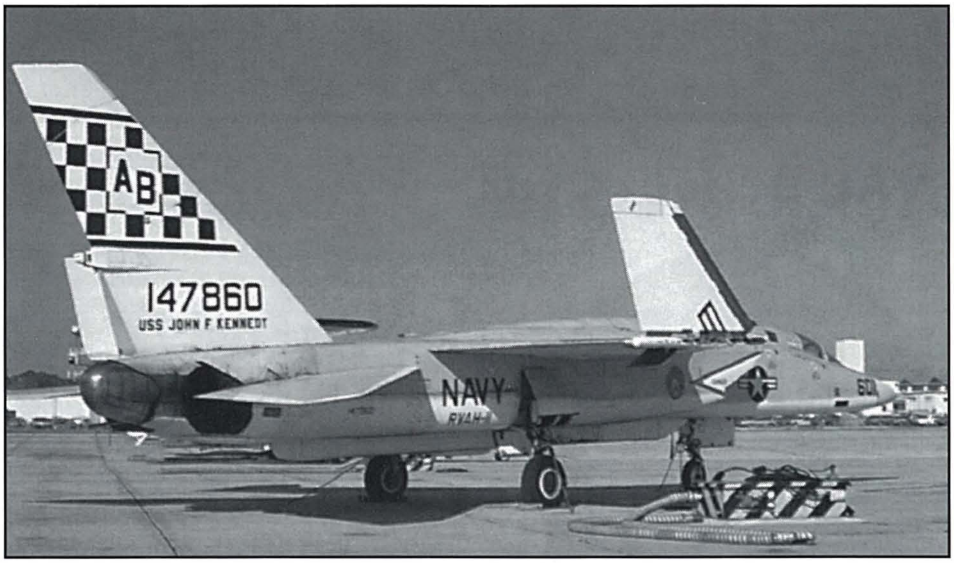
After a thirty-day standdown period with limited flight operations, RVAH-11 commenced a training cycle highlighted by TRAEX Slant Range in November. In October 1972 the squadron received the CNO Safety Award.

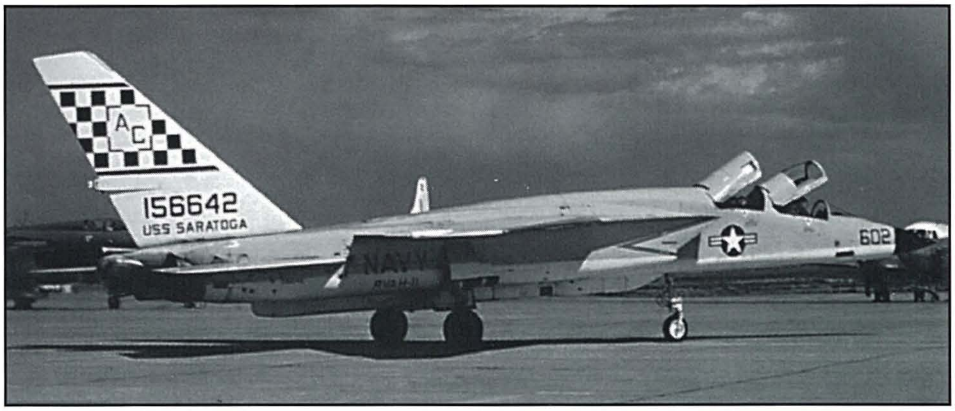
1973 started out with carrier qualifications and work-ups onboard the USS John F. Kennedy (CVA-67). Due to the cease fire in Vietnam, the JFK and RVAH-11 were diverted to the Med. The deployment commenced on 16 April 1973 and was highlighted by air shows and port calls to Barcelona, Palma de Mallorca, Livorno, Gaeta, Italy, Athens, Rhodes, Greece, and Cannes. Sorties were flown in September and October during NATO exercises Magic Sword and Swift Move in the Bay of Biscay and the North Sea. These exercises were followed by a port visit to Edinburgh, Scotland. The Kennedy was scheduled to return home but was diverted to a position outside the Straits of Gibraltar. Subsequently, she was ordered into the Med and began full-scale flight operations off the Southeast corner of Crete. After the easing of this alert, the Kennedy headed home to Norfolk arriving 1 December 1973.

In late January 1974, RVAH-11 was transferred to NAS Key West, FL, and after workups made its last deployment aboard the USS Saratoga (CV-60) from 27 September 1974 through 19 March 1975. On 2 February 1975, RVAH-11 lost RA-5C 156623 at sea during normal carrier operations.

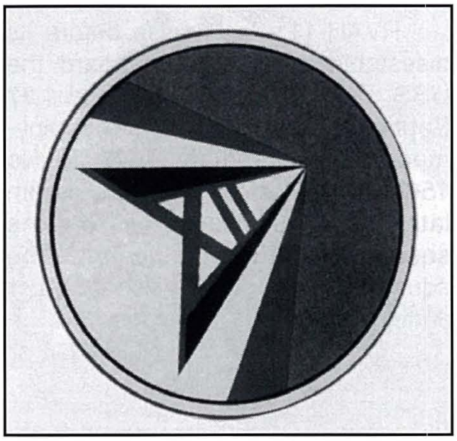
RVAH-11's last cruise before its disestablishment began aboard the USS Saratoga (CV-60) on 27 September 1974. During the deployment, on 2 February 1975, BuNo 156623 was lost at sea. One month later, on 19 March 1975, the squadron returned home. The squadron was disestablished on 1 June 1975.

Below, John F. Kennedy-based RVAH-11 RA-5C BuNo 147860 with "AB" tail code in 1973. (via Burger) Bottom, Saratoga-based RVAH-11 RA-5C BuNo 156642 in 1974 with "AC" tail code. (via Burger)



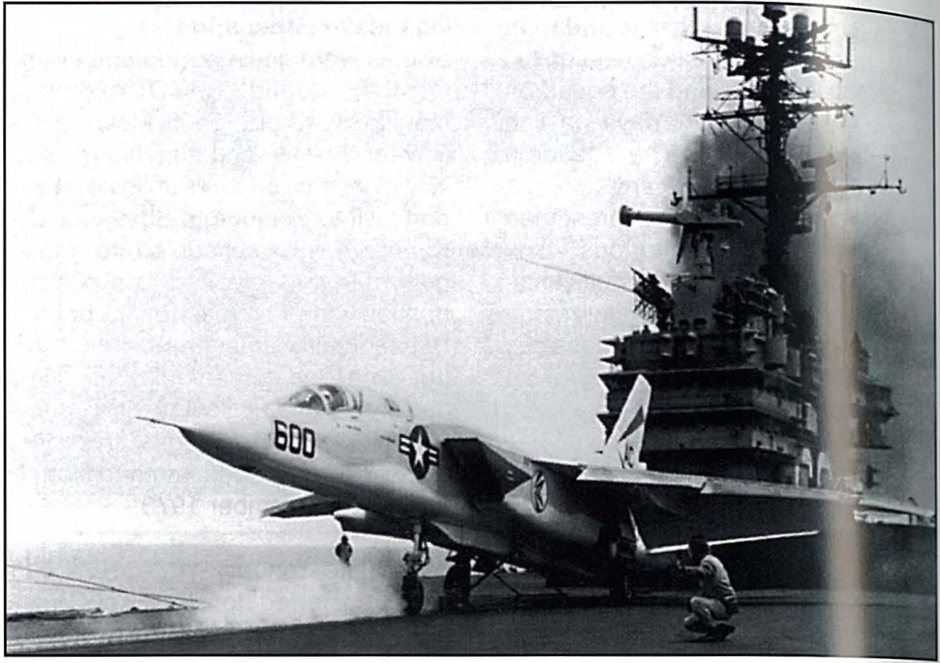


RVAH-12 "SPEARTIPS"

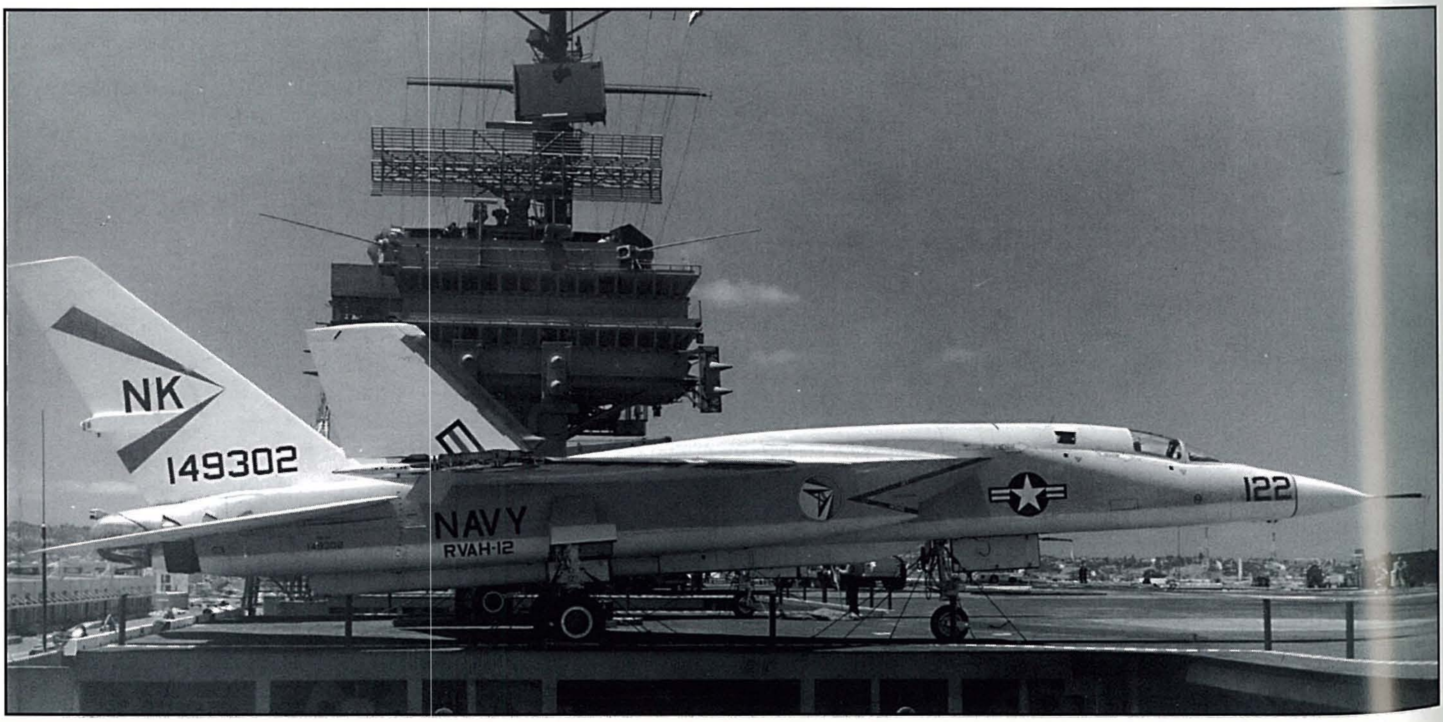


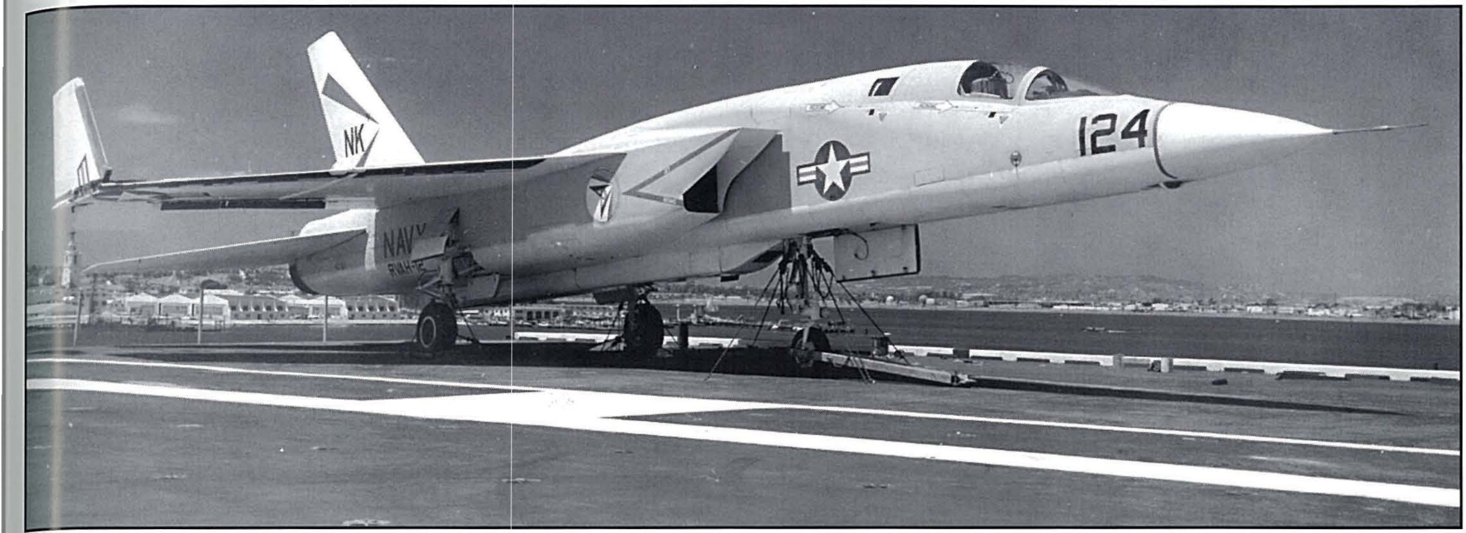
RVAH-12 was established on 1 July 1965 at NAS Sanford, FL. After training was completed on the RA-5C, the squadron joined CVW-3 for a Med deployment aboard the USS Saratoga (CVA-60) from 11 March through 26 October 1966. On 30 March, she relieved Forrestal (CVA-59) at Pollensa Bay, Mallorca. On 15 October 1966, Sara was relieved by the USS Shangri-La (CVA-38) at Pollensa Bay.

As part of CVW-14, RVAH-12 deployed aboard the USS Constellation from 29 April through 4 December 1967. CVA-64 arrived on Dixie Station on 18 May and commenced attacks on the Iron Triangle in South Vietnam. In June, the Air Wing began operations up north from Yankee Station. Targets included petroleum storage areas, bridges, airfields and the electric power plant in Hanoi. On 25 July, in concert with the USS Saint Paul, CVW-14 aircraft destroyed the Vinh power plant. The Air Wing flew 10,538 combat sorties before sailing for Subic Bay on 11 November. The ship docked in San Diego on 4 December 1967. Two aircraft were lost during the war cruise, both in August. The first was BuNo 151634. It was shot down by AAA on

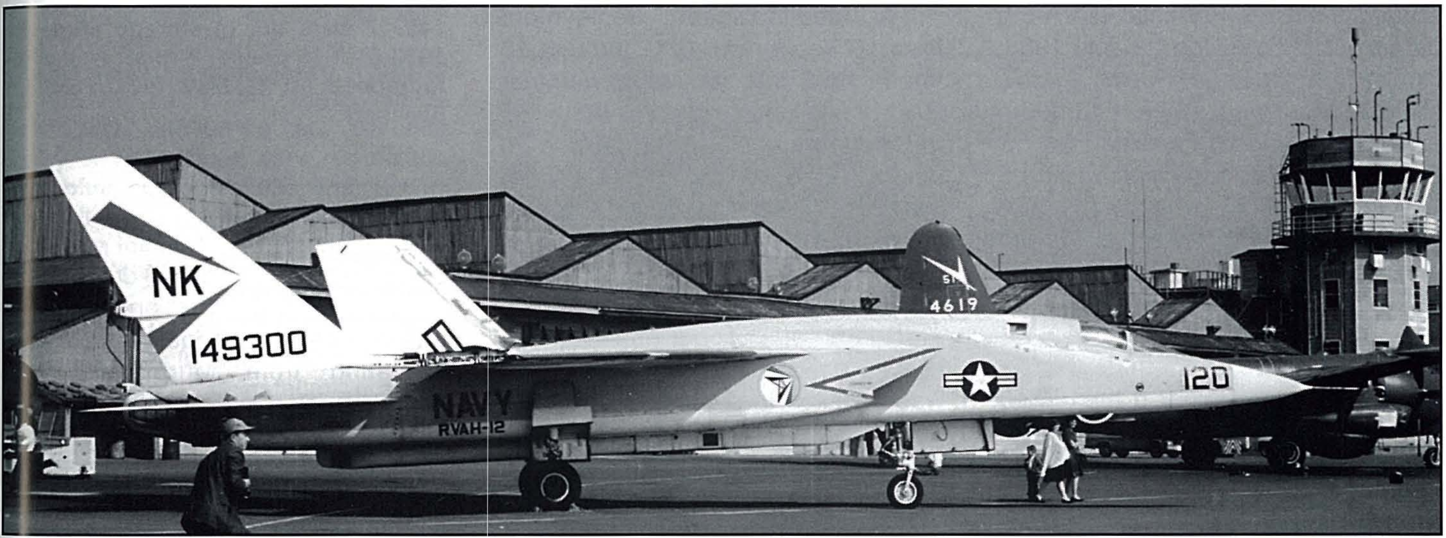


Above, Saratoga-based RVAH-12 RA-5C, tail code "AC" launches in the Med in 1966. (USN) Below, RVAH-12 RA-5C BuNo 149302 on board the USS Constellation at North Island, CA, on 28 April 1967. Tail stripes were red. (William Swisher)




NK
124
NAVY
RVAH-12

Above, RVAH-12 RA-5C BuNo 151727 on CVA-64 on 29 April 1967. (William Swisher) Below, RVAH-12 RA-5C BuNo 149300 on 21 May 1967 at NAF Atsugi, Japan. (Toyokazu Matsuzaki) Bottom, RVAH-12 RA-5C BuNo 151626 prepares to launch from the USS Forrestal (CVA-59) in the Atlantic on 21 June 1968. Tail stripes were red and lightning bolt was black. (USN)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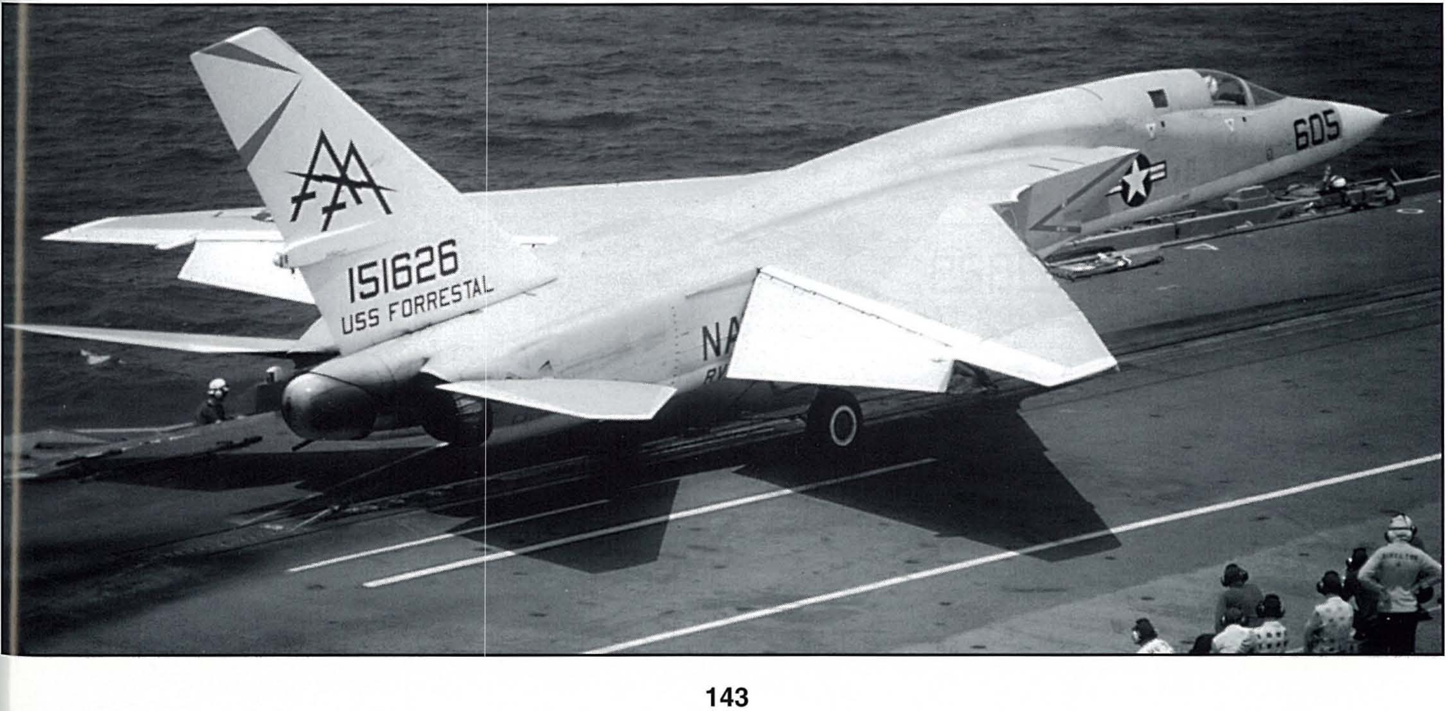
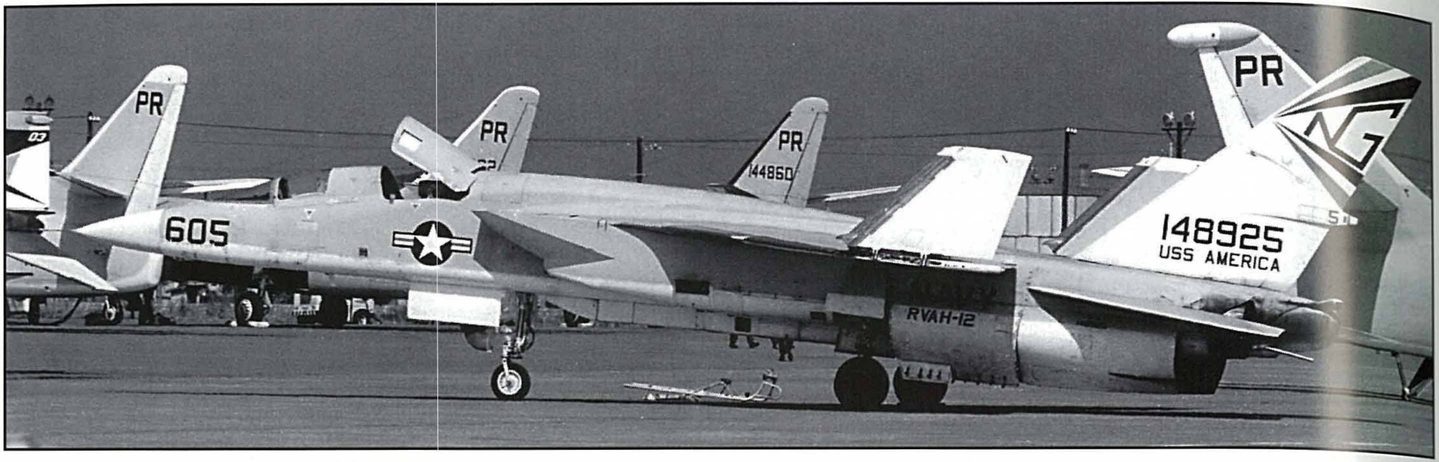

151626
USS FORRESTAL
605



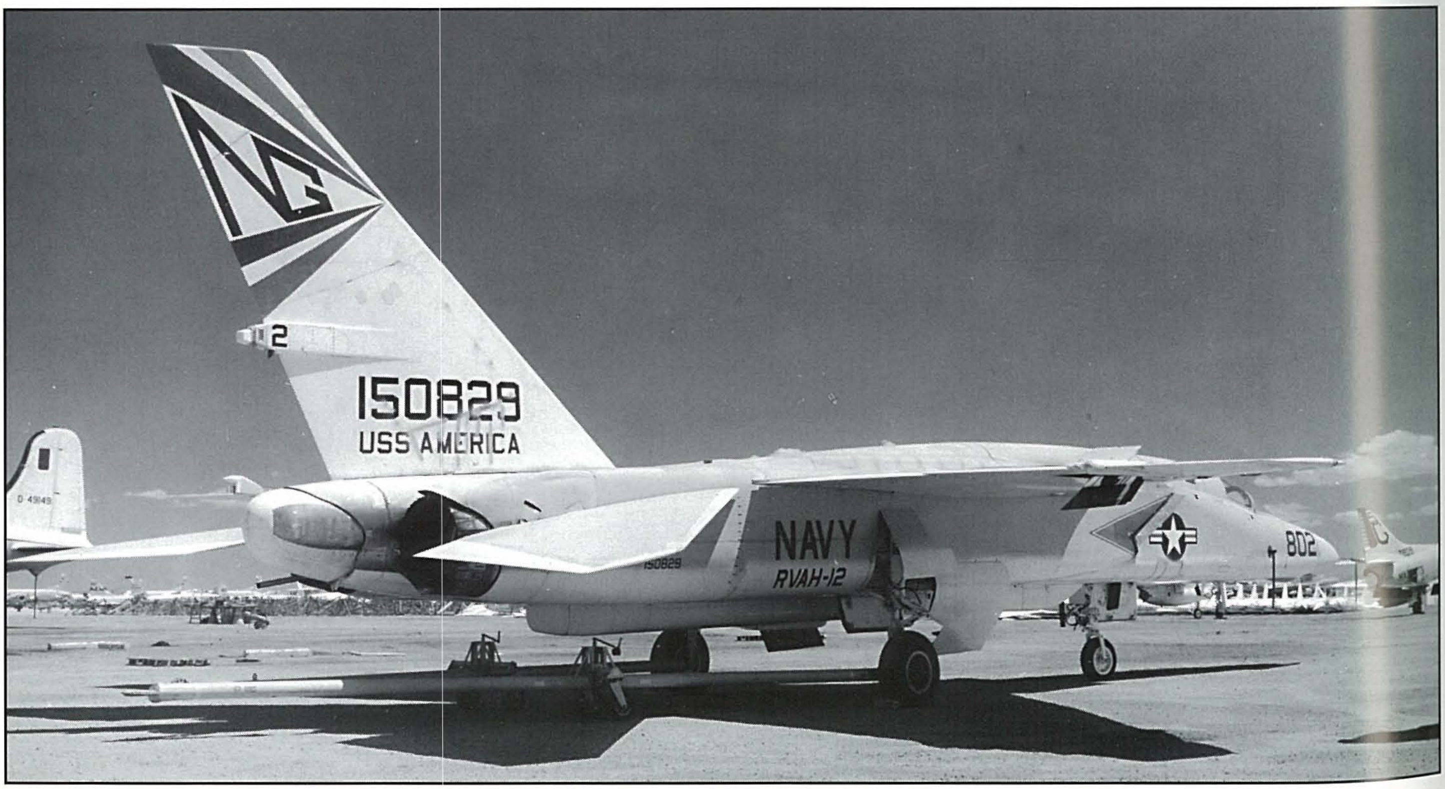
Above, America based RVAH-12 RA-5C BuNo 148925 at NAF Atsugi on 10 October 1970. Two blue tail stripes had been added to the red ones starting with this deployment. (Toyokazu Matsuzaki) Below, RVAH-12 RA-5C BuNo 150829 along with 149313 and 149317 were put in storage after the 1970 CVA-66 cruise. Aircraft was photographed on 11 May 1971. (William Swisher)

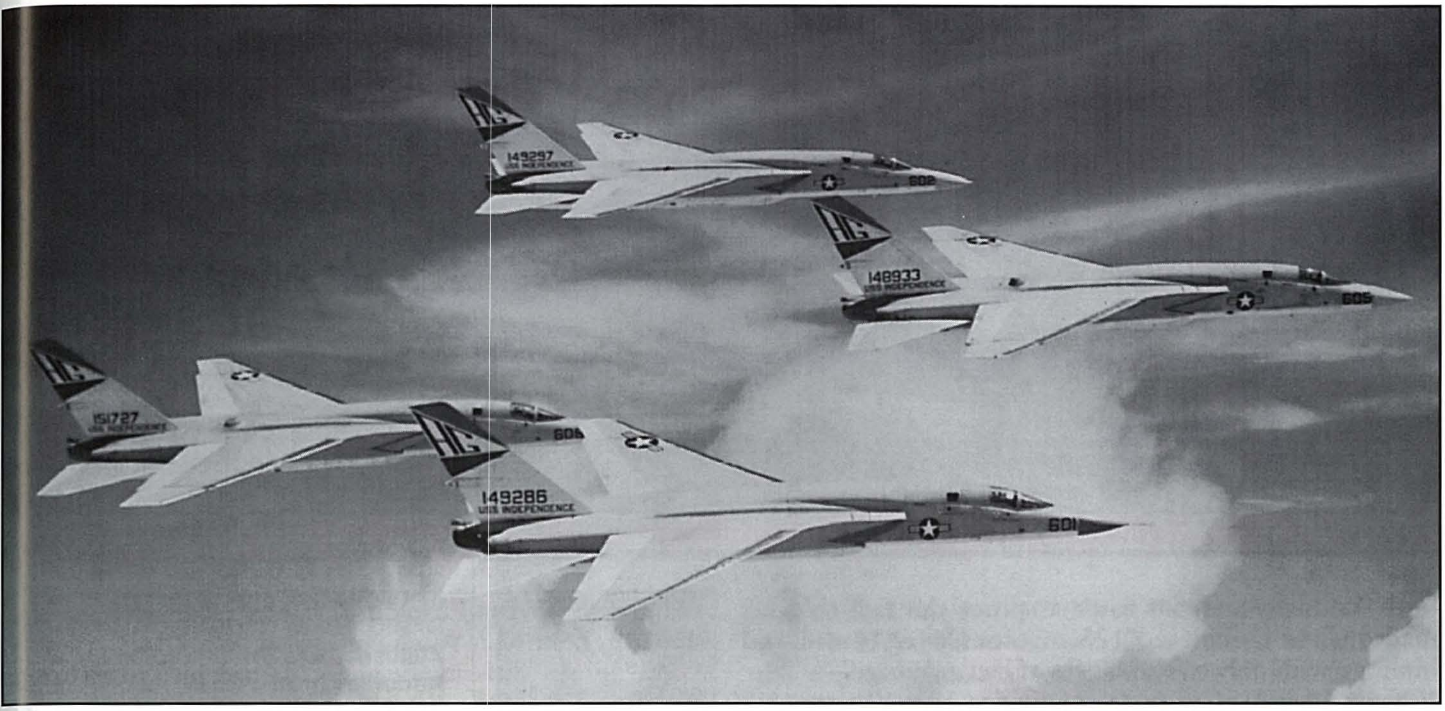
13 August with the crew becoming POWs. The second, BuNo 149302, was lost along with the crew to an operational accident on 17 August.

RVAH-12 deployed to the Med aboard the USS Forrestal (CVA-59) as part of CVW-17 on 22 July 1968. During the cruise a Heavy Twelve RA-5C recorded the 143,000th arrested landing on Forrestal. RA-5C BuNo 151626 was stricken on on 25 October. CVA-59 was relieved at Rota, Spain, on 22 April 1969 by the USS John F. Kennedy (CVA-67). She returned to Norfolk on 29 April 1969.

For their 1970 Vietnam cruise, the Speartips joined the USS America (CVA-66). They deployed from 10 April through 21 December 1970. During pre-cruise training, BuNo 151620 was lost at Albany when the pilot ejected.

A Mediterranean deployment from 16 September 1971 through 16 March 1972 was conducted with four RA-5C Vigilantes aboard the USS Independence (CVA-62). Prior to deploying to the Med, the carrier joined NATO exercise Royal Knight in the North Atlantic. For this exercise, two Heavy Twelve aircraft, BuNos 148933 and 151727, were fitted with articulated IR spectrum sensors known as SNARE. The equipment was installed in a ten-inch-tall turret and intended to collect data about laser emitters found on specially equipped Bears, Badgers and Bisons operating from Murmansk. The squadron also flew recon missions

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149297
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USS INDEPENDENCE
601

Above, Independence-based RVAH-12 RA-5Cs BuNos 149297, 148933, 149286 and 151727 carried the "AG" tail code in 1971. Tail stripes were red on top and blue below. 148933 and 151727 were the Project Snare aircraft and could be identified by the 10-inch turret on the fuselage near the trailing edge of the wing. (USN) At right, Indy-based RVAH-12 RA-5C making an arrested field landing in 1972. (USN) Below right, Constellation-based RVAH-12 RA-5C BuNo 156640 being escorted by a VF-96 Phantom in 1973. (via Kaston) Below, RVAH-12 RA-5C BuNo 156640 in 1973. Crew's names were painted on red-white-blue background. (Fred Roos)

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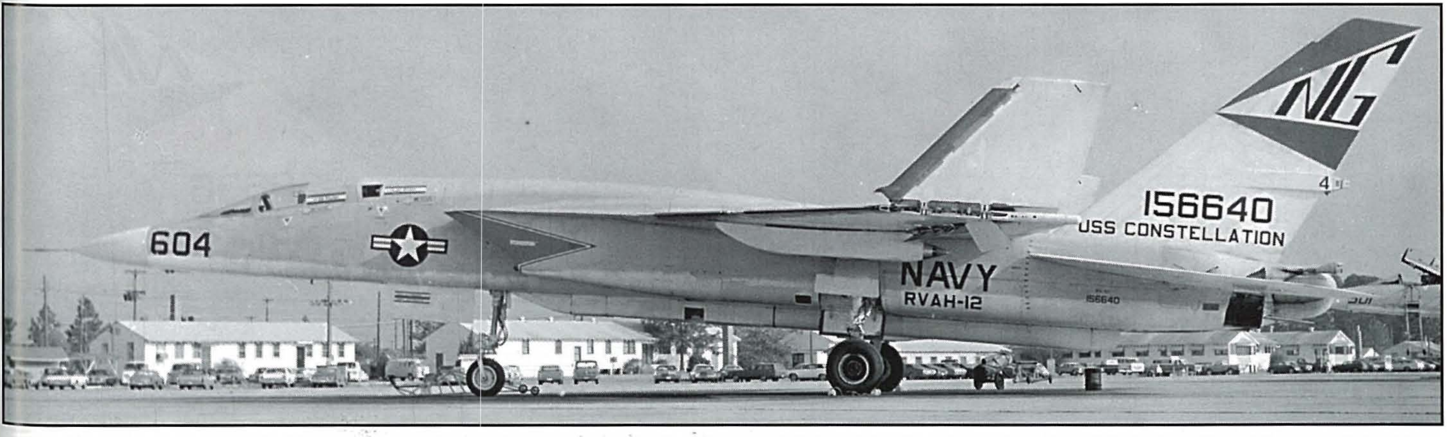
over Greece, Spain and West Germany. During operation National Week XII, a three-plane detachment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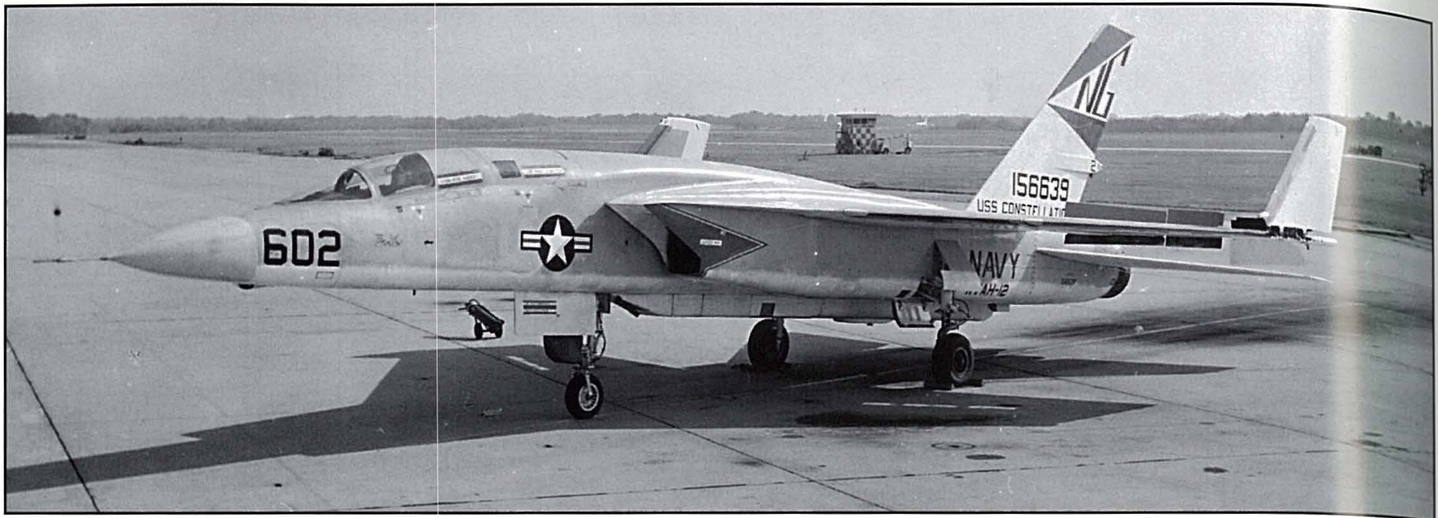
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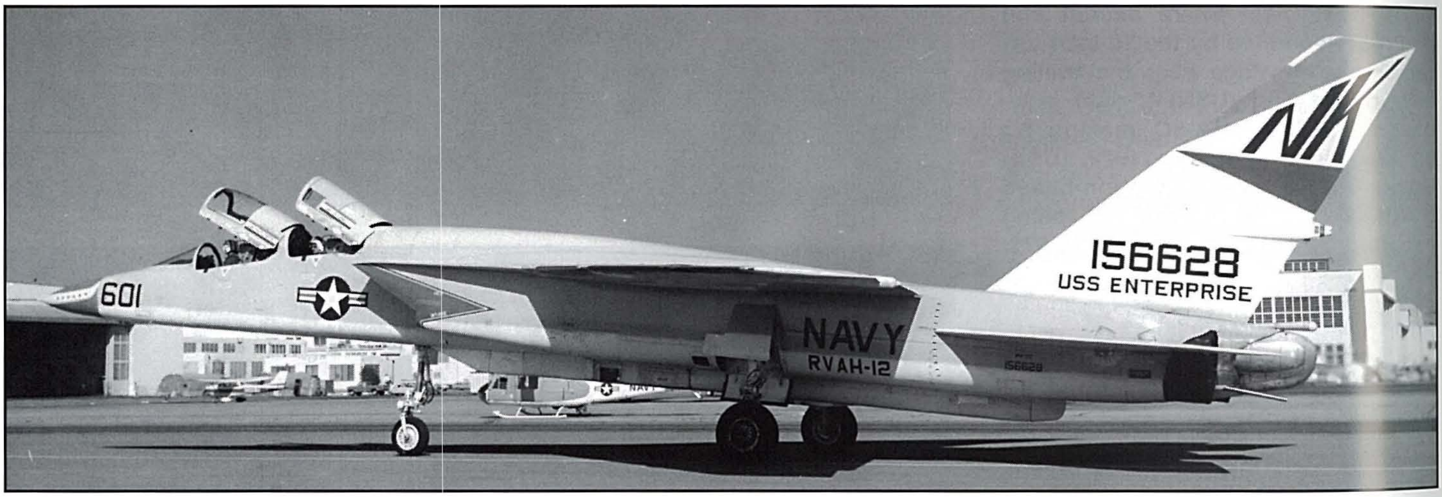
conducted simulated air attacks against the fleet. After returning to Albany, BuNo 147850 was lost on 5 May 1972 when the crew ejected.

RVAH-12 re-joined CVA-64 on 5 January 1973 for the ship's last combat cruise. CVW-9 arrived on station on 30 January and commenced air operations against targets in Cambodia and Laos. Operations were also flown in support of minesweeping off Haiphong and during Operation End Sweep. BuNo 156609 was lost on 21 May when the crew ejected after the aircraft had deposited its last linear bomb bay fuel cell on the carrier's deck and the Vigilante caught fire. The ship returned to San Diego on 11 October

Above, RVAH-12 RA-5C BuNo 156639 in 1973. (Fred Roos) Below, RVAH-12 RA-5C BuNo 156628 taxis at NAS Alameda, CA, on 13 September 1974. Radome trim was red. (William Swisher) Bottom, RVAH-12 RA-5C BuNo 156636 taxis on 13 September 1974. Radome was blue on top and red on bottom. (William Swisher)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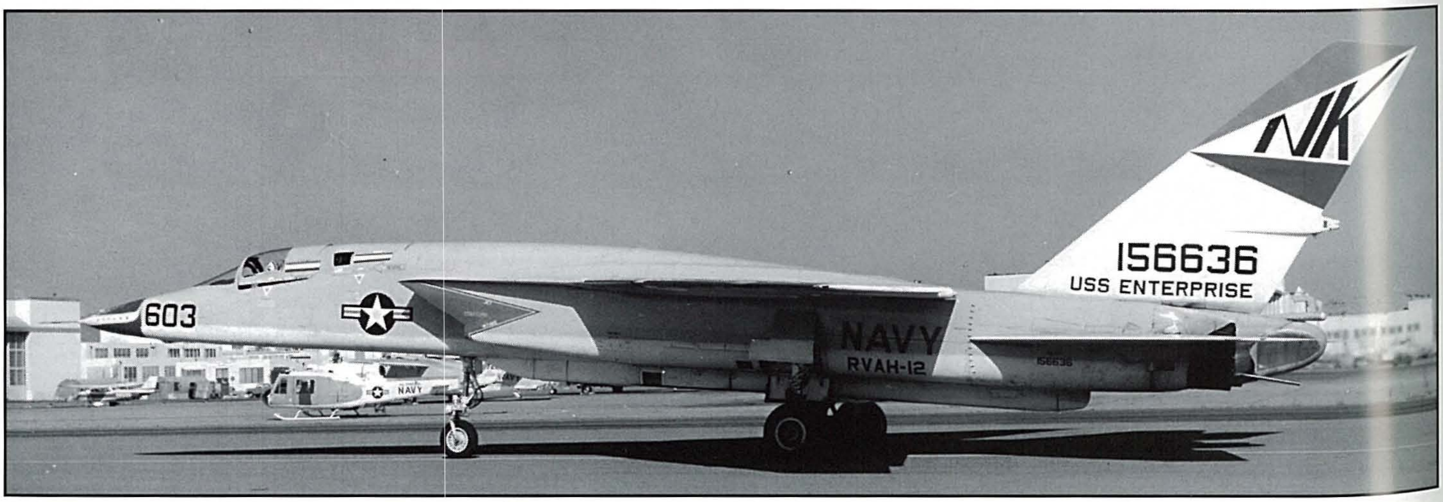
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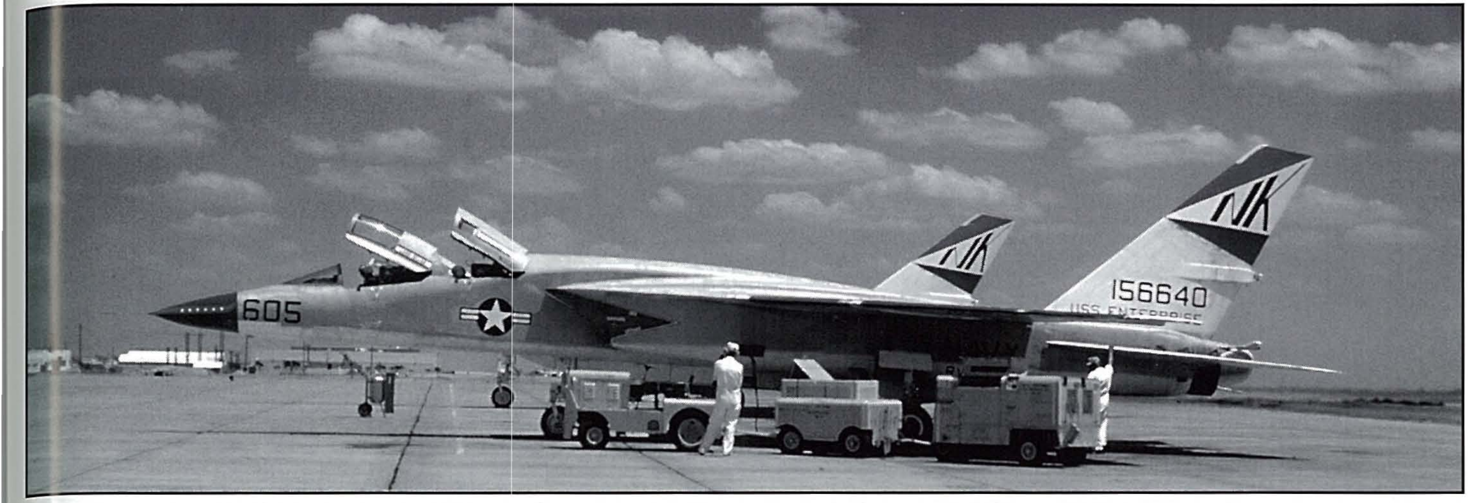
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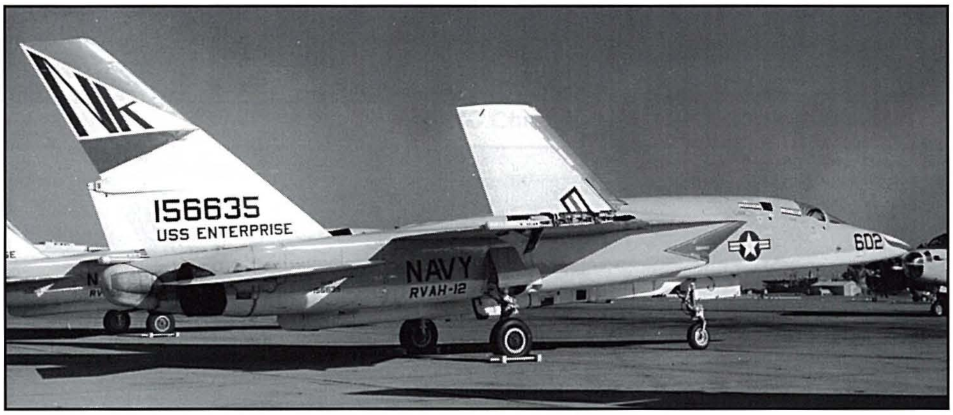
Above, Enterprise-based RVAH-12 RA-5C BuNo 156640 in July 1974. Radome was blue with red stripe & white stars. (Don Logan via Kaston) At right, RVAH-12 RA-5C BuNo 156635 at Alameda on 13 September 1974. (William Swisher) Below right, RVAH-12 RA-5C BuNo 156612 with USS Forrestal and "AA" on the tail for the cancelled 1976 CV-59 deployment in 1976. (via Burger) Bottom, RVAH-12 RA-5C BuNo 156628 at NAF Fallon, NV, with tail code removed on 6 February 1976. Note bicentennial emblem on the fuselage side. (Doug Olson via William Swisher)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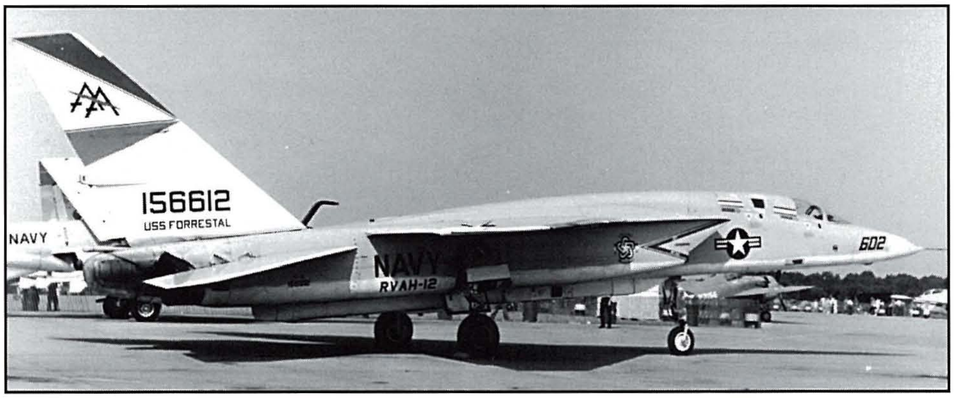
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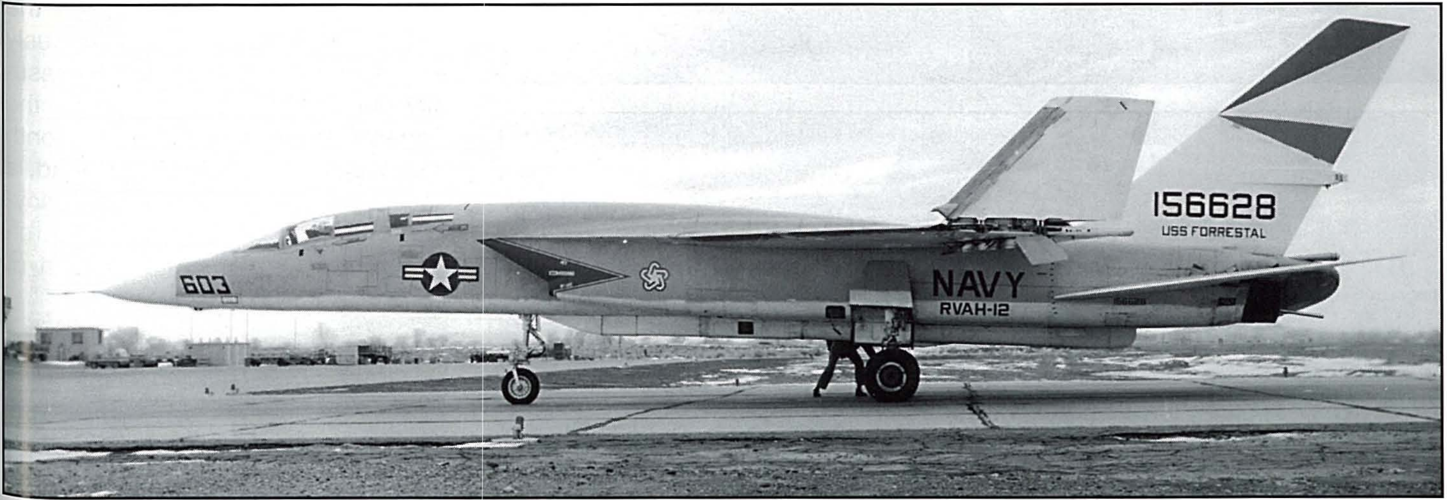
1973.

RVAH-12 joined CVW-14 and the USS Enterprise from 17 September 1974 through 20 May 1975. During the cruise, the squadron was tasked with photomapping the island of Diego Garcia in support of the construction and build-up of the facility as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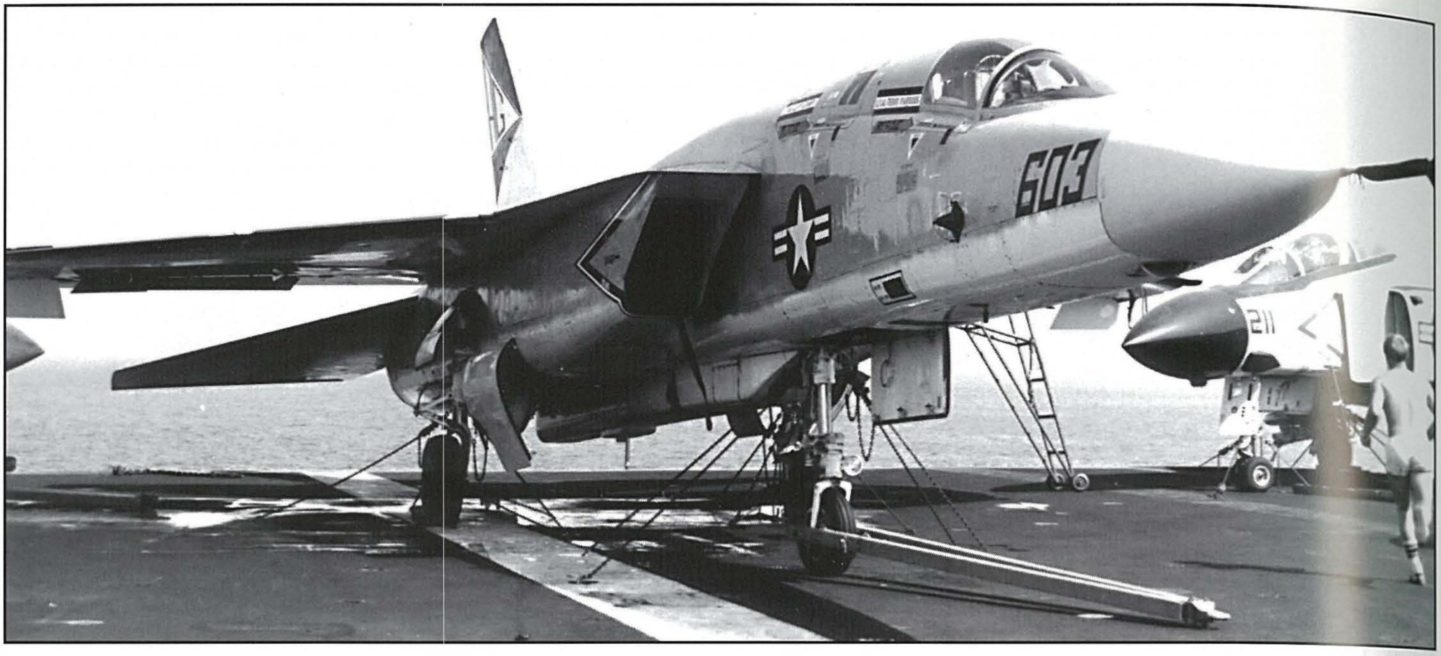
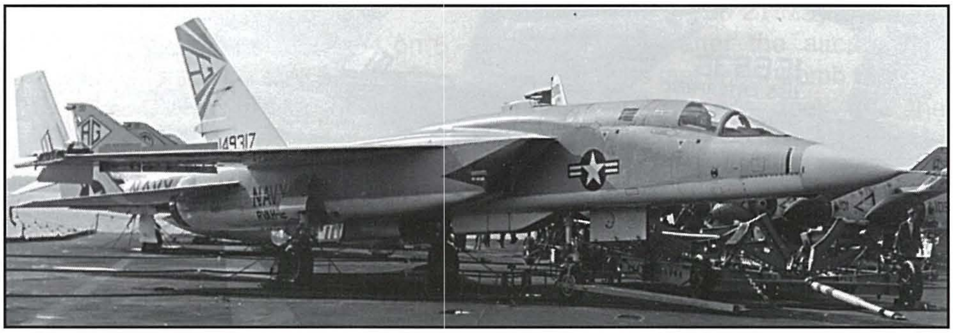
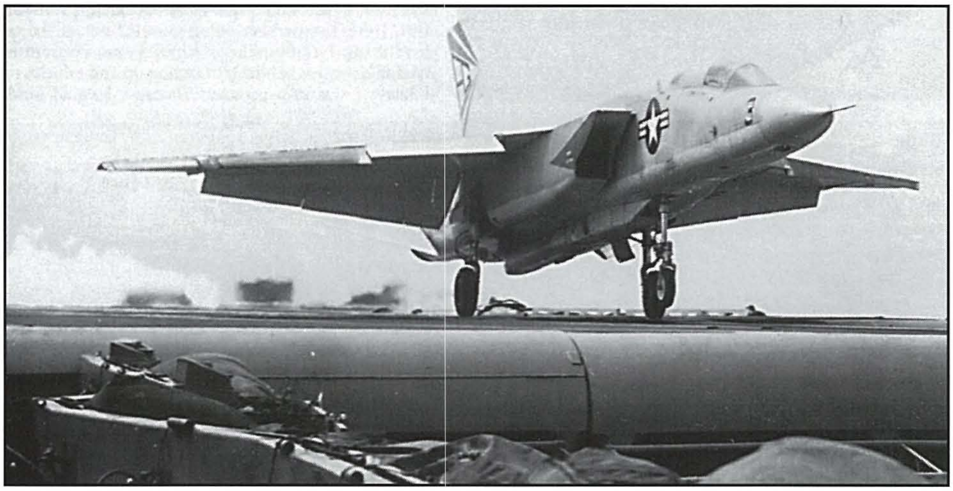
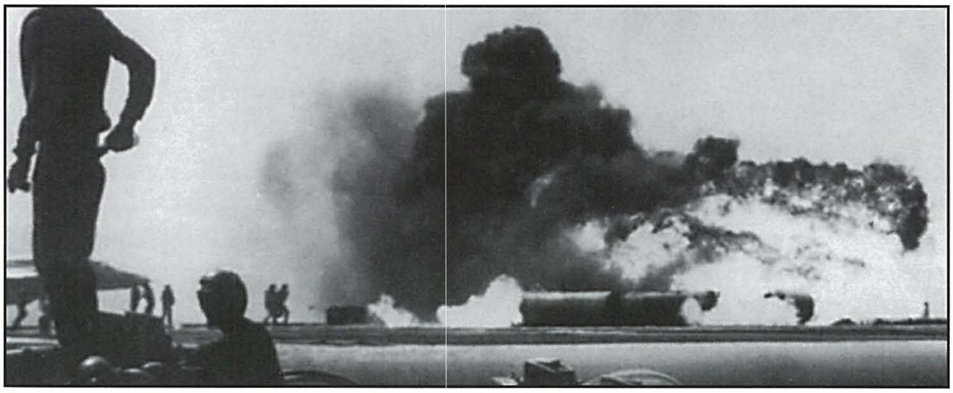






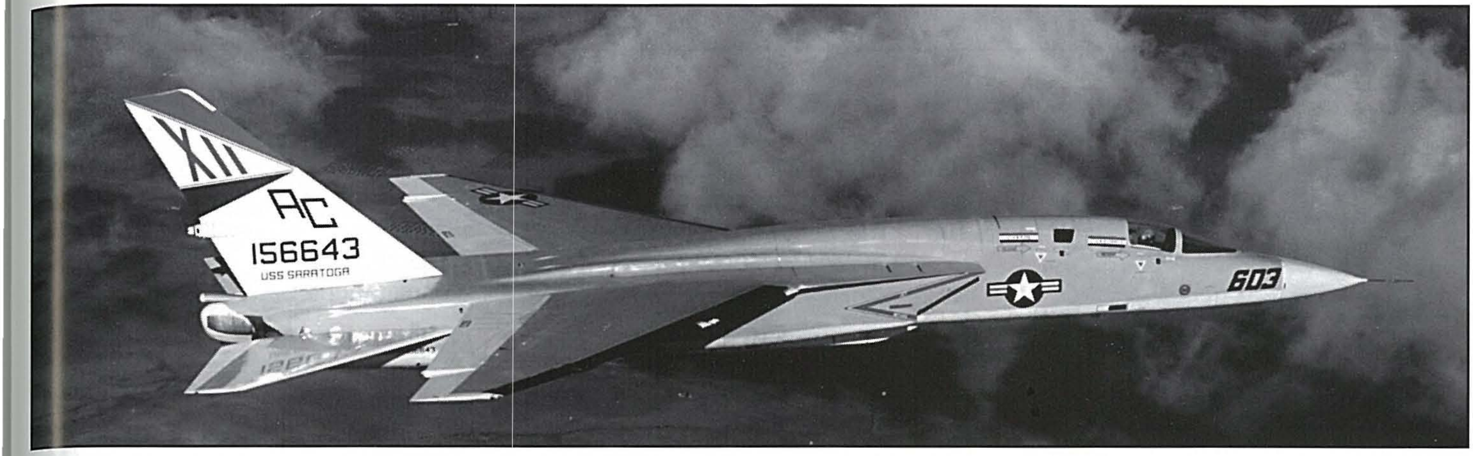


Above, RVAH-12 RA-5C BuNo 156636 with "AG" tail code aboard CV-62 in 1977. (via Burger) At left, RVAH-12 RA-5C BuNo 149317 "AG" tail code aboard CVA-66 in 1969. (via Burger) At left Below, CDR John Huber's Vigilante dumps all three bomb bay fuel cans on the Indy's deck without damage to the RA-5C. The squadron lost another RA-5C when only one of its fuel cans were left on deck after a catapult launch. (USN)

a forward naval base. On 29 April 1975, the Enterprise was off-shore of South Vietnam where CVW-14 aircraft flew 95 sorties during the evacuation of South Vietnam.

After returning from the Enterprise deployment, the squadron was scheduled to deploy on the Forrestal in 1976 and was thusly marked. A major propeller shaft casualty during the 1975 cruise sent the Forrestal to Norfolk for a nine-month overhaul in October 1976. Instead, a second Indy Mediterranean deployment was made from 30 March through 21 October 1977 as part of CVW-7.

RVAH-12 joined the USS Saratoga and CVW-3 for the last Atlantic Fleet RA-5C deployment on 3 October 1978. After six months in the Med, CV-60 returned home and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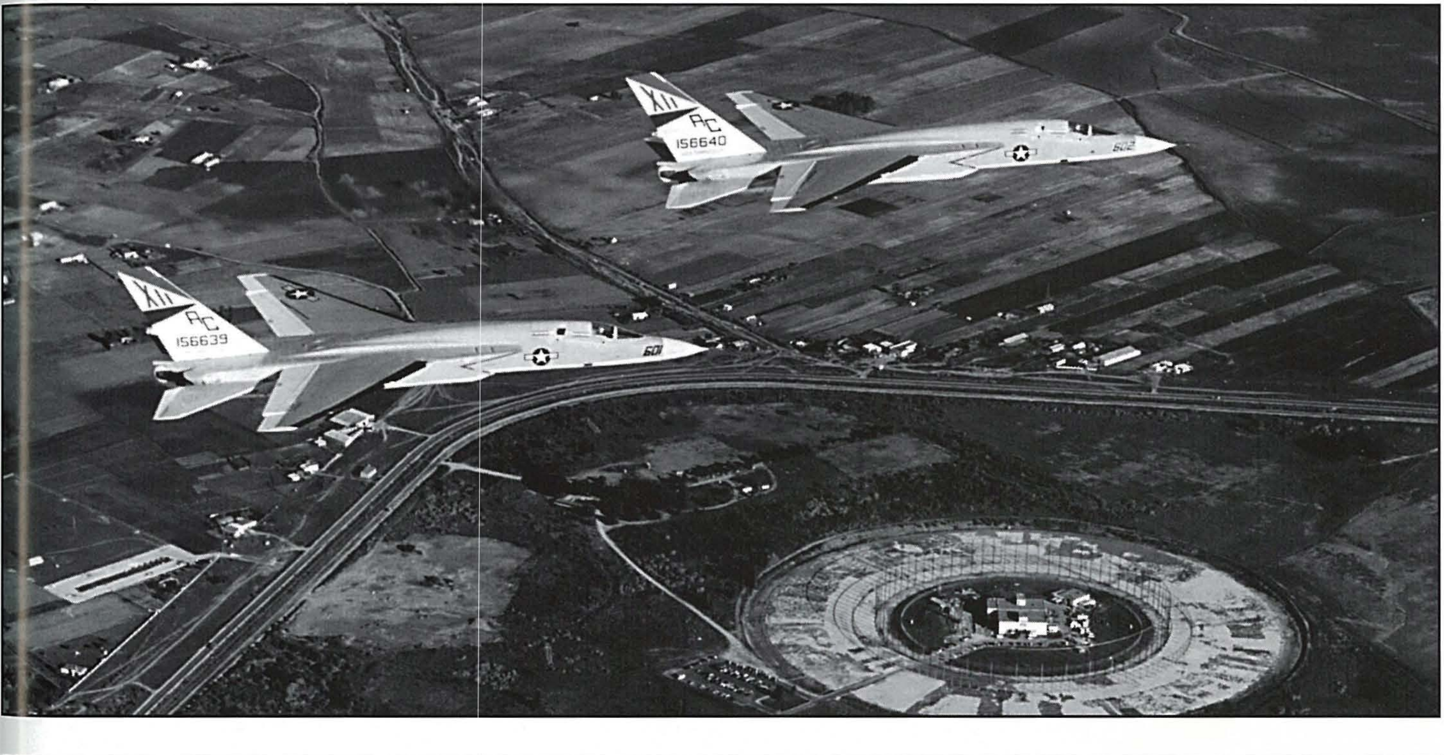
156643
USS SARATOGA
603

docked on 4 April 1979. The squadron was disestablished on 2 July 1979. Three of the squadron's RA-5Cs were transferred to NWC China Lake, CA, for use as possible targets. These were BuNos 156639, 156640 and 156643.

Above, Saratoga-based RVAH-12 RA-5C BuNo 156643 in flight in 1979. (via Gene Holmberg) Below, BuNos 156640 (602/AC) and 156639 (601/AC) in 1979. (via Gene Holmberg) Bottom, RVAH-12 RA-5C BuNo 156643 in outdoor storage at NWC China Lake in 1980. (Craig Kaston)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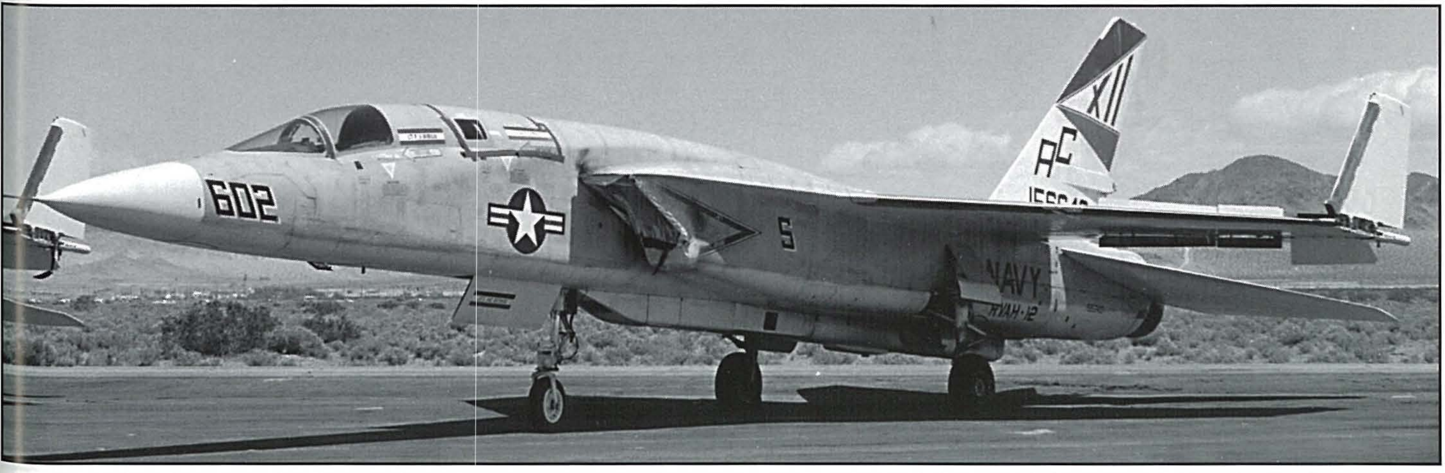
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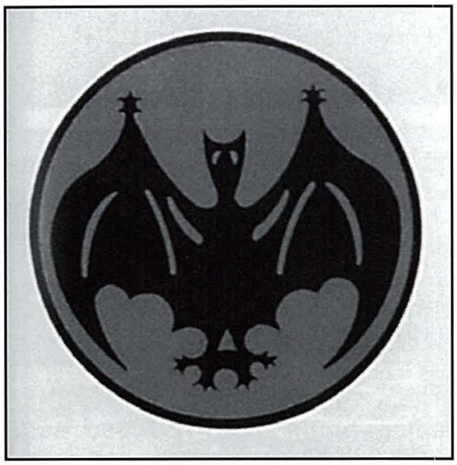
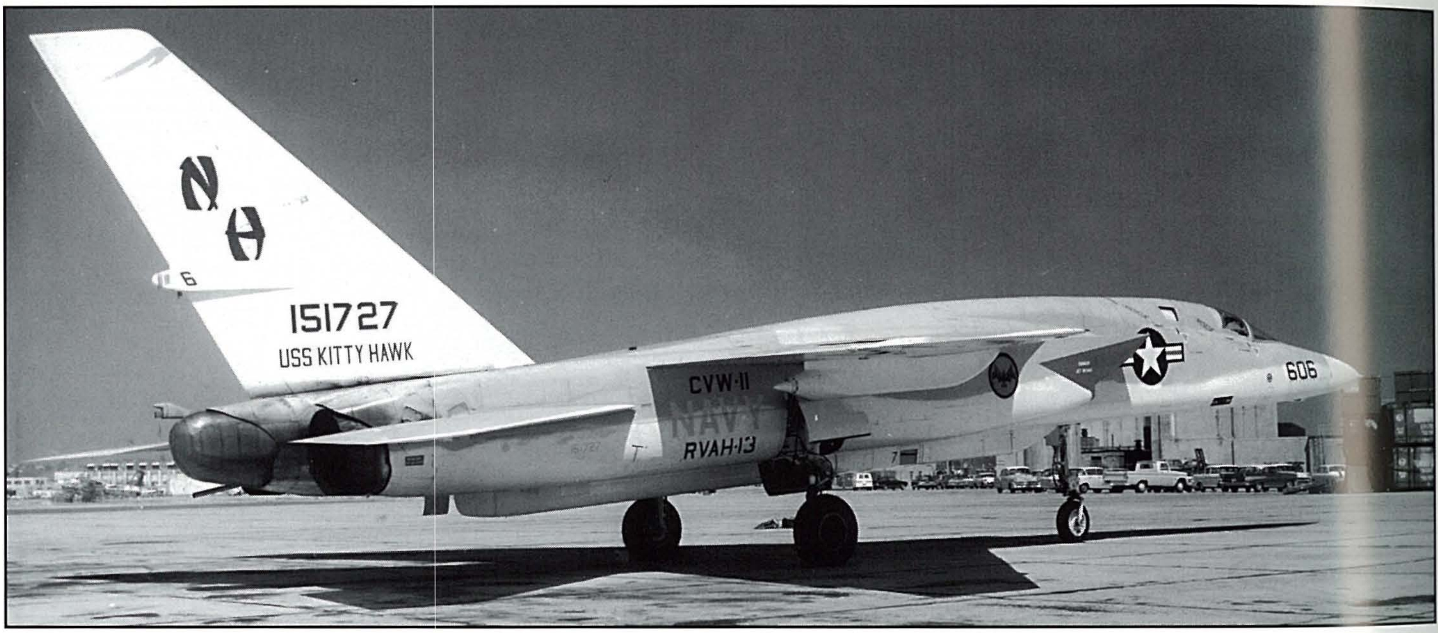
RVAH-13 "BATS"

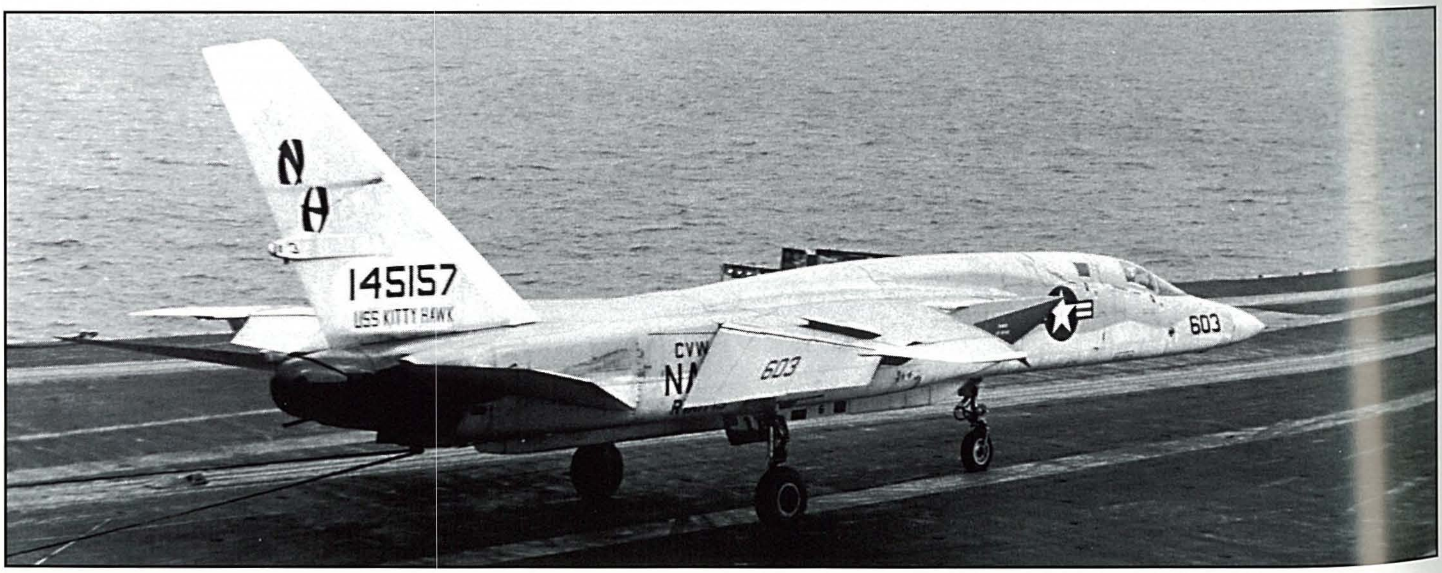


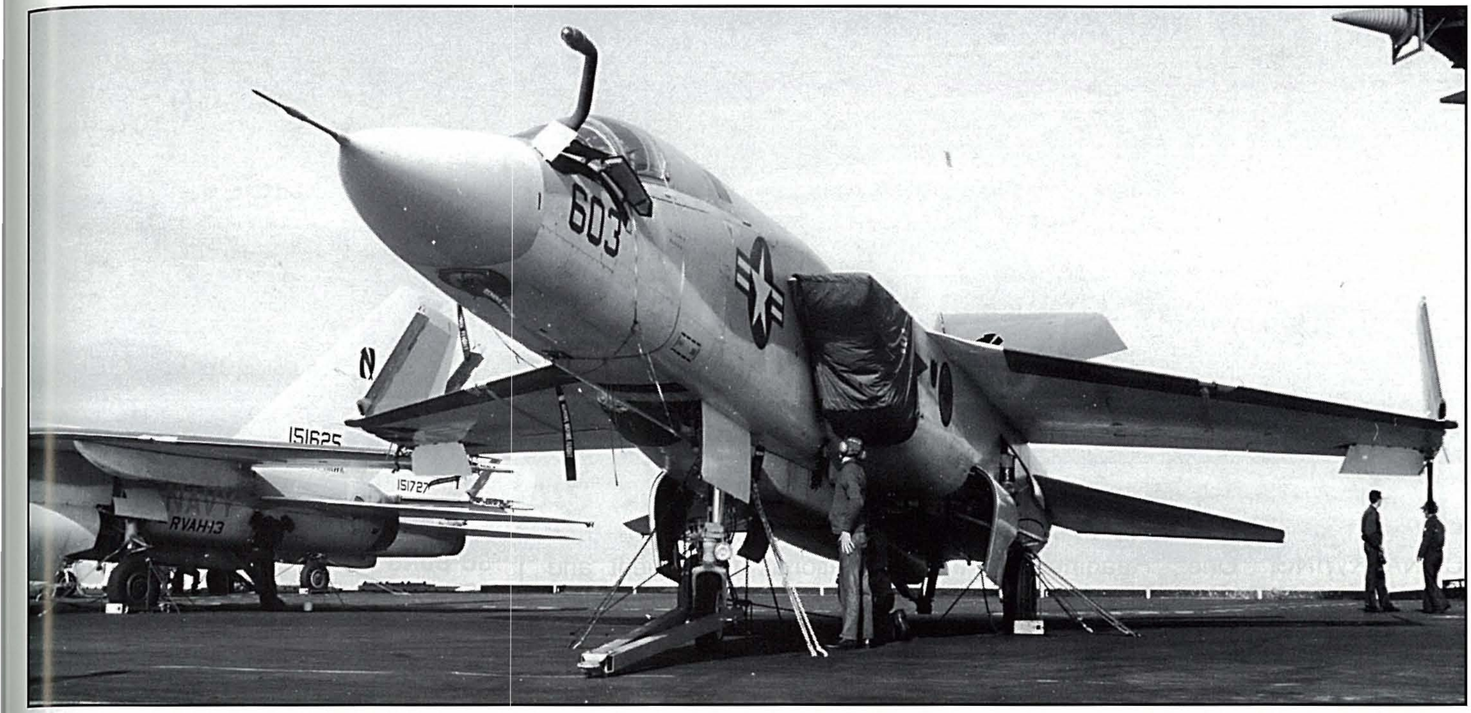
VAH-13 was established on 3 January 1961 at NAS Sanford, FL. As part of CVG-11, the squadron deployed Det A aboard the USS Kitty Hawk (CVA-63) for her shakedown cruise to the Caribbean on 24 July 1961. The squadron was transferred to NAS Whidbey Island, WA, in November 1961 and made two WestPac deployments with the A-3B Skywarrior before being transferred back to NAS Sanford, FL, in August 1964 in preparation for its transition to the RA-5C Vigilante.

The first Vigilantes arrived on 5 October and VAH-13 was redesignated RVAH-13 on 1 November 1964. In its new role as a reconnaissance attack squadron, RVAH-13 functioned as an element of the Navy's new Integrated Operational Intelligence System (IOIS). Also during November, RVAH-13 won the COMRECONATKWING One Bomber Stream Award. With only two aircraft committed the Bats won first and sec-

Below, RVAH-13 RA-5C BuNo 151727 at North Island on 21 September 1965 had Navy painted in light blue-grey with CVW-11 painted above it. (William Swisher) Bottom, RVAH-13 RA-5C BuNo 145157 traps aboard CVA-63 on Yankee Station in January 1966. (USN via Kaston)



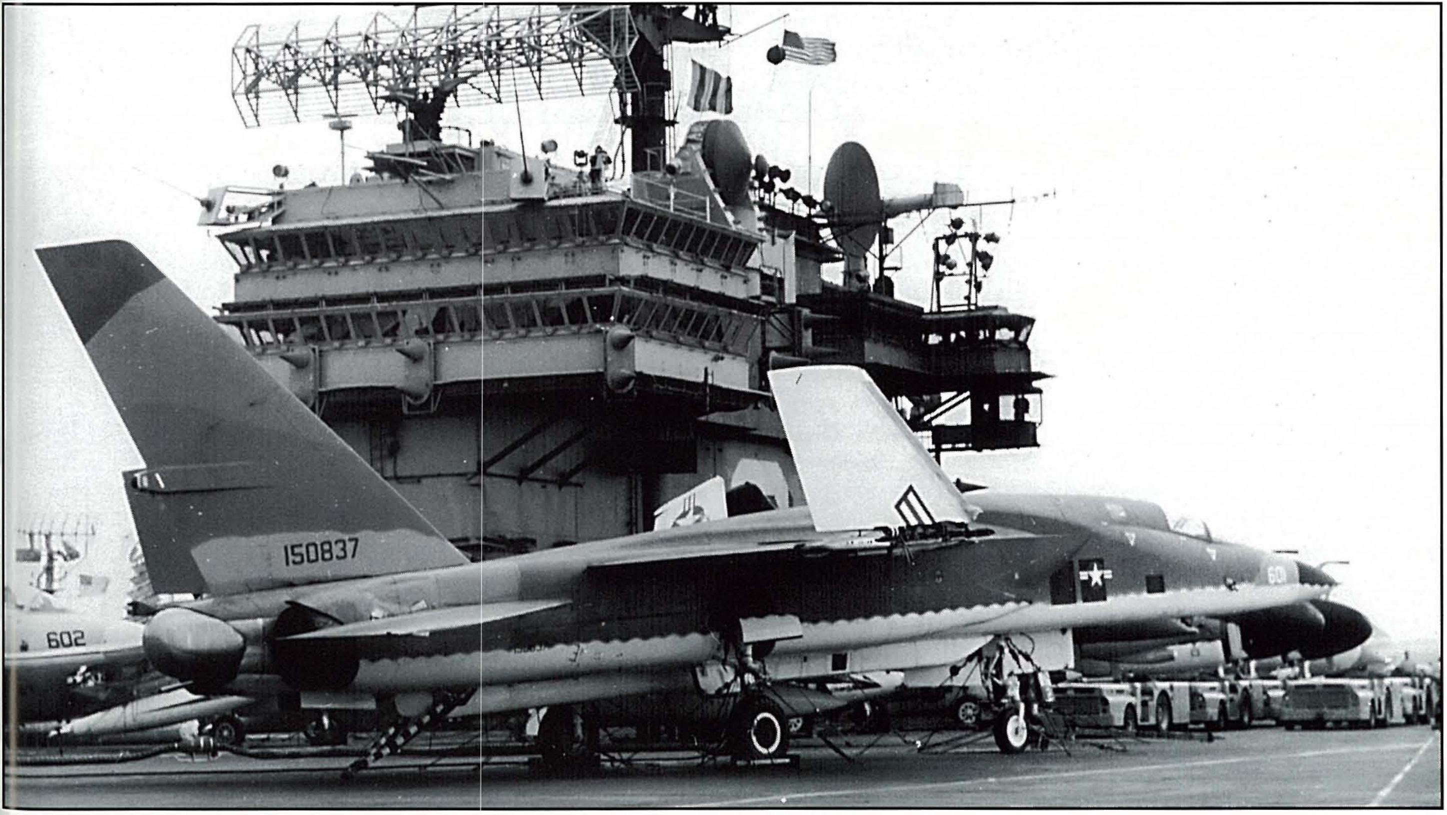


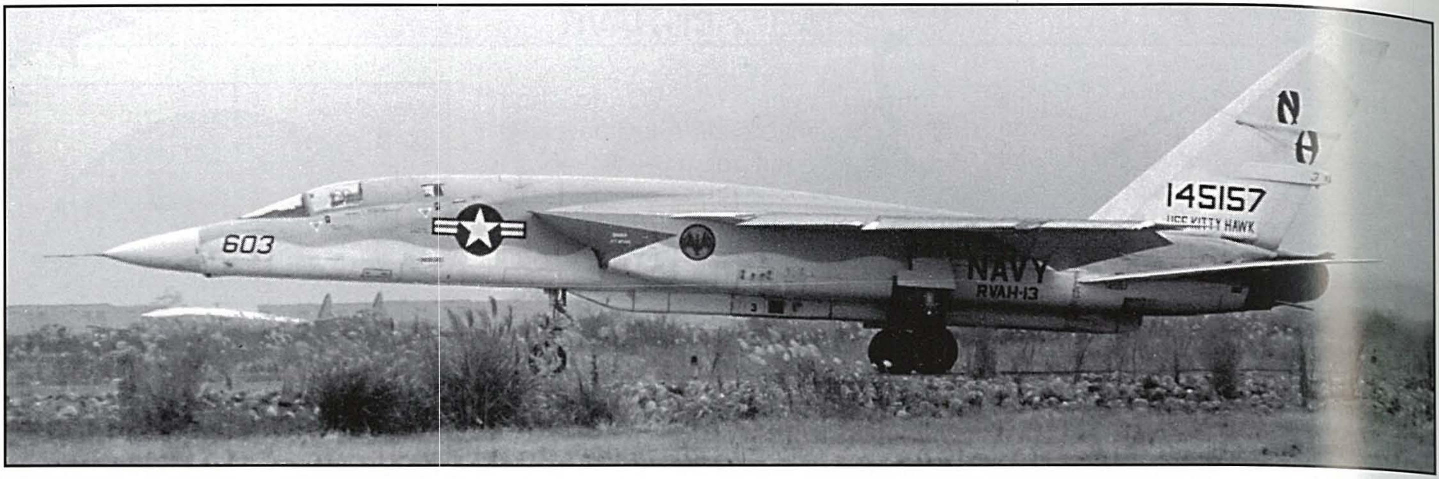


ond in the competion. In December 1964, the unit won once again. On 23 December CDR Nolta and LTJG Stokes ejected from 151821 at NAS Sanford.

The transition to the RA-5C was completed in March 1965 after the completion of carrier qualifications aboard the USS Independence (CVA-62). In the Annual Bombing Derby in April 1965, RVAH-13 won the COMRECONATKWING One carrier airmanship award. During May 1965 in the annual competitive exercises, six of the squadron's nine crews qualified for COMNAVAIRLANT individual battle efficiency "E"s. In June, the squadron was assigned a numerical grade of 94.19 on its annual Administrative Material Inspection.

Above, RVAH-13 RA-5C on CVA-63 in 1965. (L. Paul via Fred Roos) Bottom, RVAH-13 RA-5C BuNo 150837 nose number 601 on 6 June 1967 in S.E.A. camouflage test scheme. The dark rectangles on the fuselage sides were antennas. (R. Besecker collection via Norm Taylor)

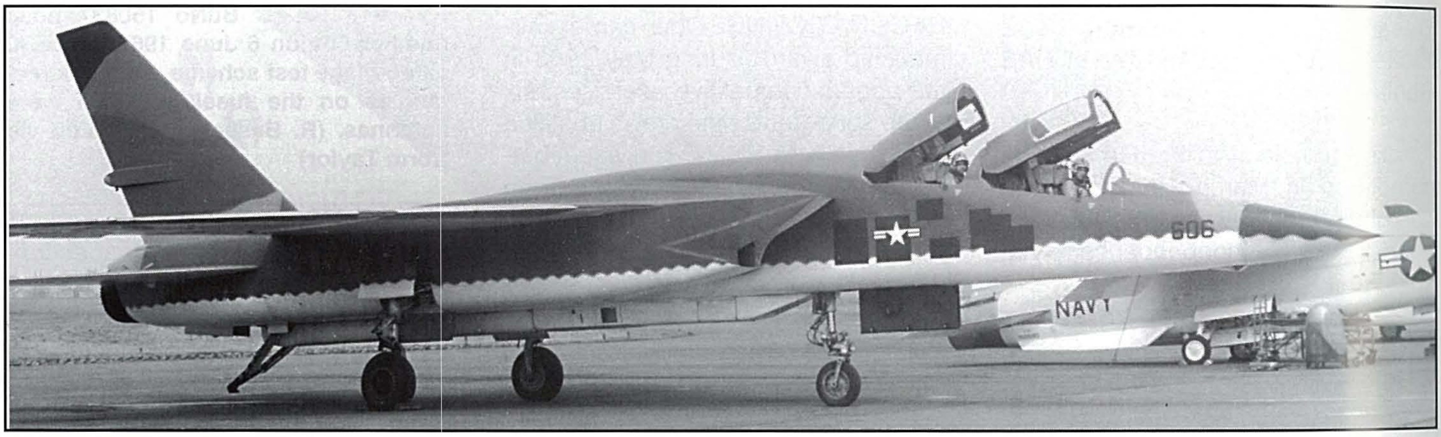


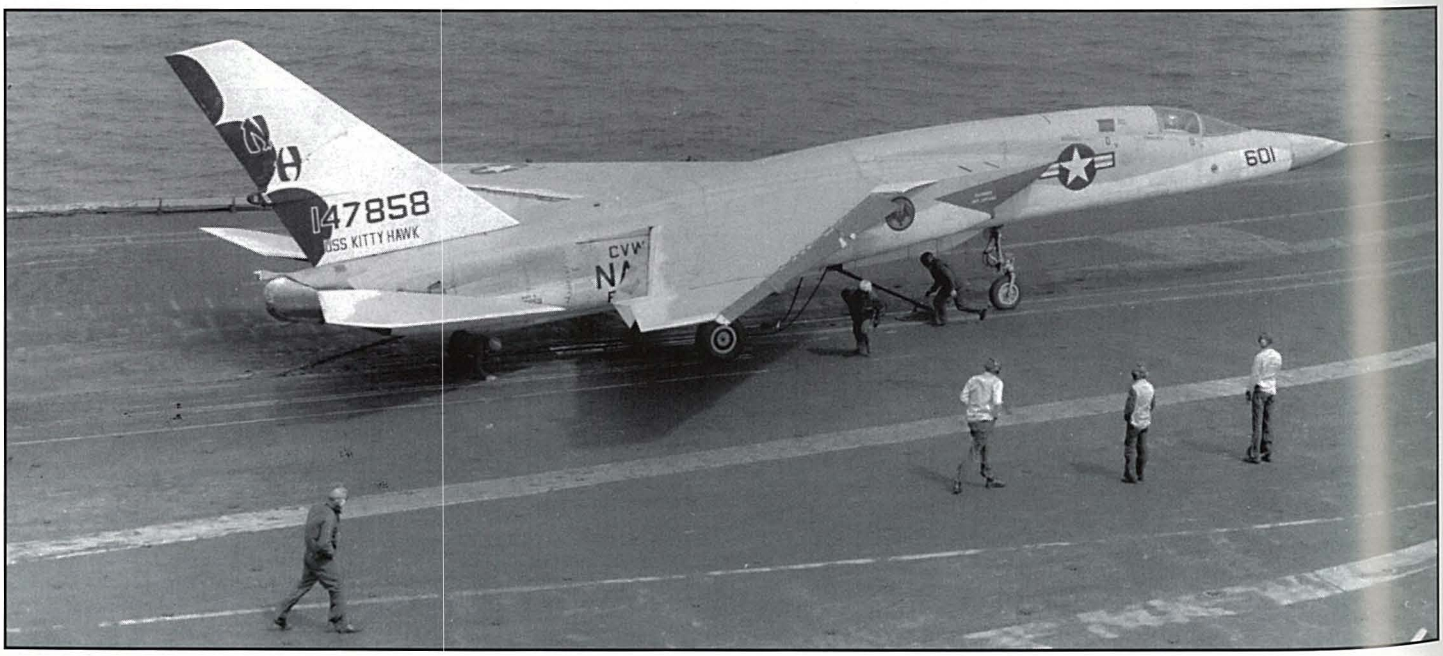


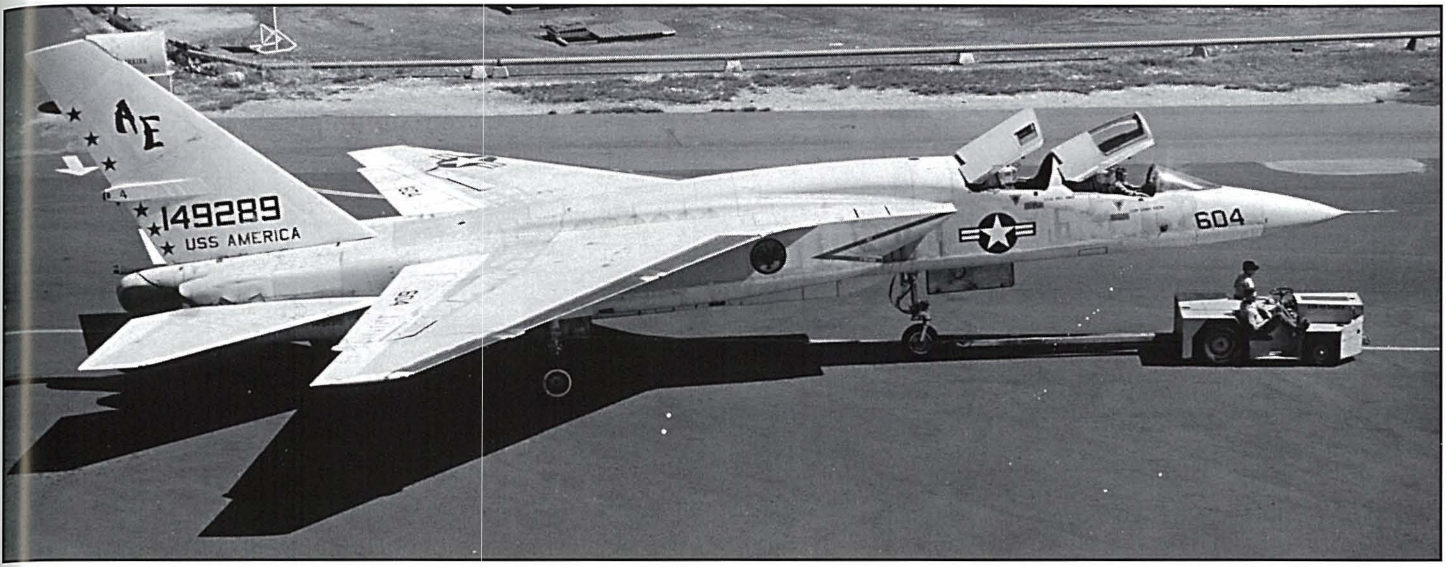
RVAH-13 won the first COMRECONATKWING One Readiness Exercise in 1965, and received a grade of excellent on the Operational Readiness Inspection conducted on board the USS Kitty Hawk in November 1965.

The "Bats" commenced their third operational deployment and first combat cruise as a component of Attack Carrier Air Wing Eleven on board the USS Kitty Hawk in November 1965. On Yankee and Dixie stations operating from CVA-63 in the South China Sea from

Above, Kitty Hawk-based RVAH-13 RA-5C BuNo 145157 taxis at NAF Atsugi on 23 November 1966. (Toyokazu Matsuzaki) Below, RVAH-13 RA-5C BuNo 151727 nose number 606 at Atsugi. (H. Nagakubo via Fred Roos) Bottom, RVAH-13 RA-5C BuNo 147858 on CVA-63 in May 1967. Tail scallops were maroon. (R. Harrison via Norm Taylor)







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149289
USS AMERICA
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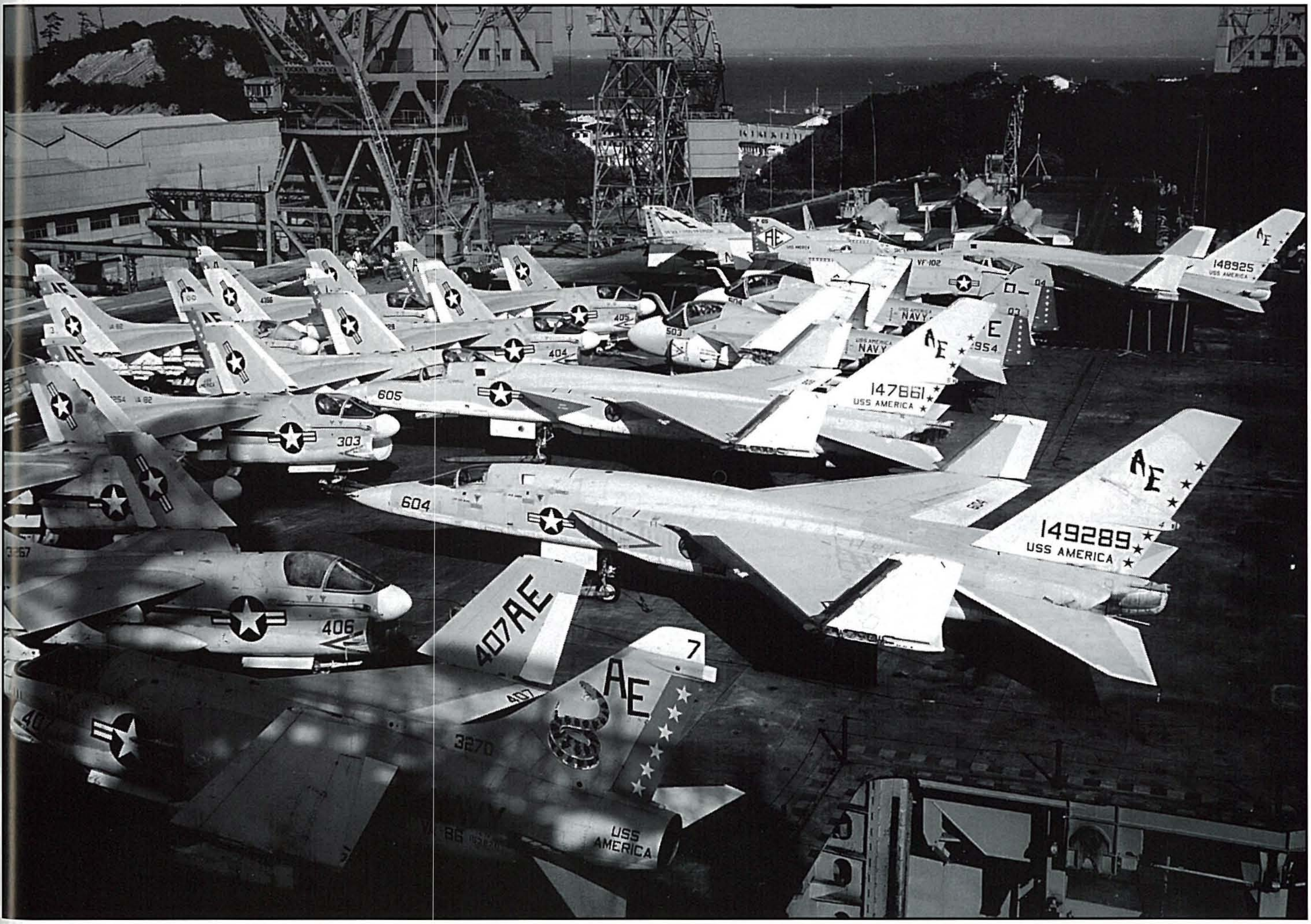
November 1965 through May 1966, RVAH-13 flew 545 combat sorties over North and South Vietnam. Flight crews were awarded four Distinguished Flying Crosses, 76 Air Medals and eighteen Navy Commendation Medals with Combat Distinguishing Devices. In addition, RVAH-13 Aviation Ground Officers and enlisted personnel received seven Navy Commendation Medals and 10 Secretary of the Navy Commendation Ribbons for outstanding performance in support of combat operations in Southeast Asia. RVAH-13 received the Navy Unit

Above, America-based RVAH-13 RA-5C BuNo 149289 in 1968. Stars on tail were black outlined in red. (Wyckoff collection via Kaston) Bottom, CVA-66 at NS Yokosuka, Japan, in September 1968 with RA-5Cs BuNos 149289, 147661 and 148925 among the A-6s, A-7s, and F-4s. (Toshihiko Watanabe via T. Matsuzaki)



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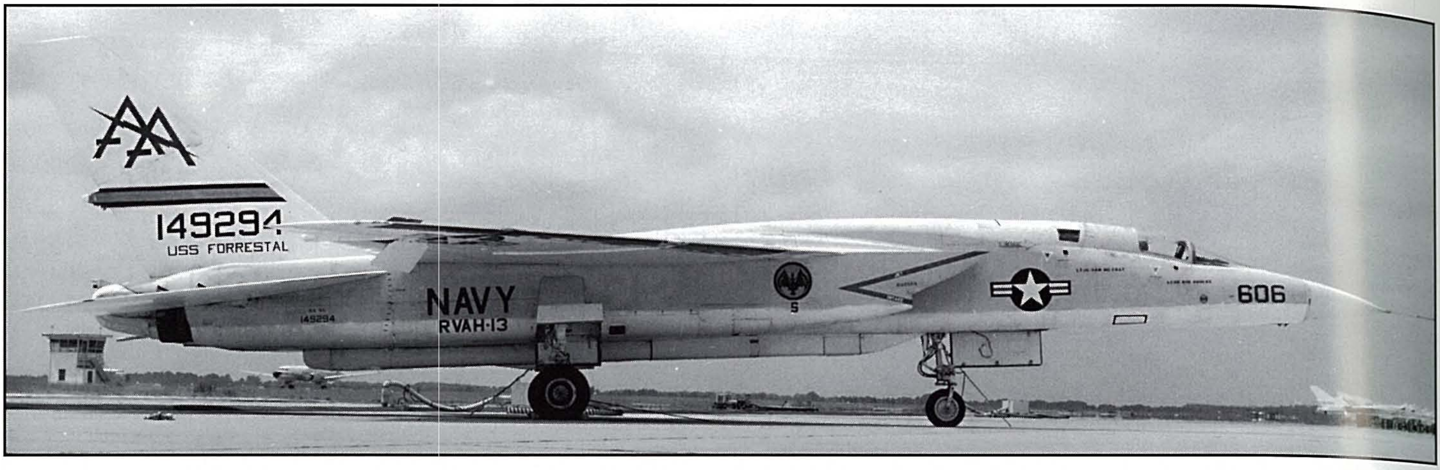
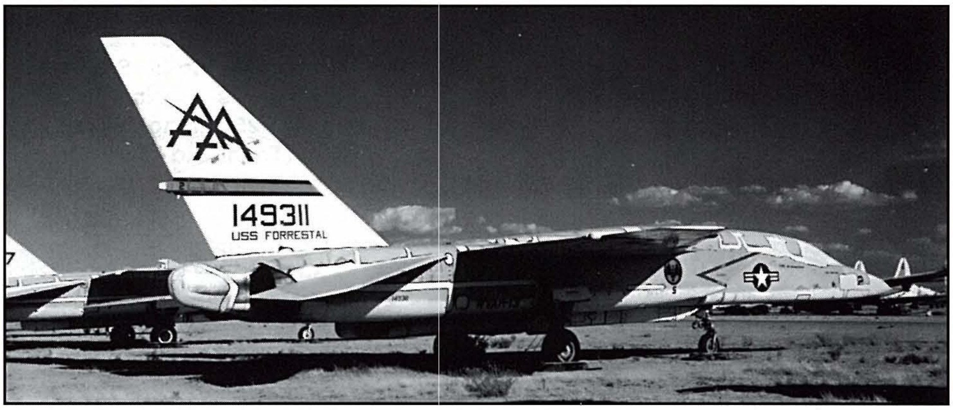
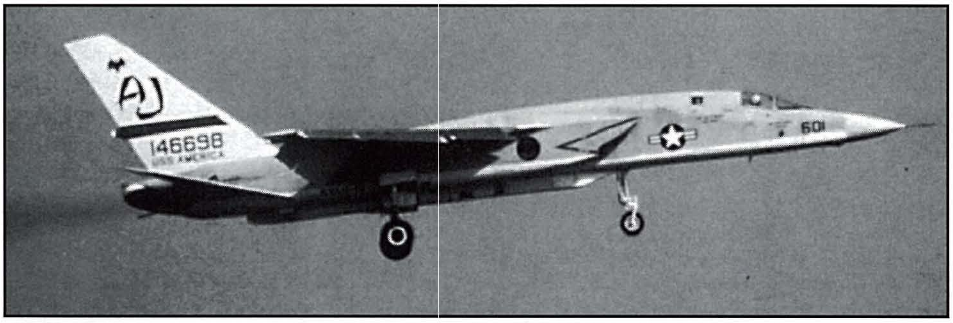
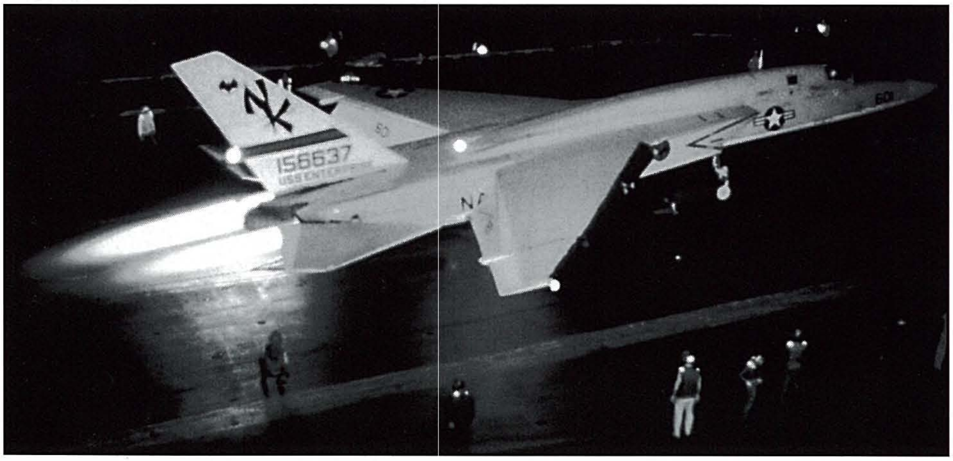


Above, Forrestal-based RVAH-13 RA-5C BuNo 149294 at NAS Albany, GA, had a red tail stripe outlined in red on 27 July 1970. (William Swisher) Below, RVAH-13 RA-5C BuNo 149311 in storage on 11 May 1971. (William Swisher) Below middle, America-based RVAH-13 RA-5C BuNo 146698 in late 1971. (M. Grove) Bottom, RVAH-13 RA-5C BuNo 156637 conducts a night launch from Enterprise. (USN)



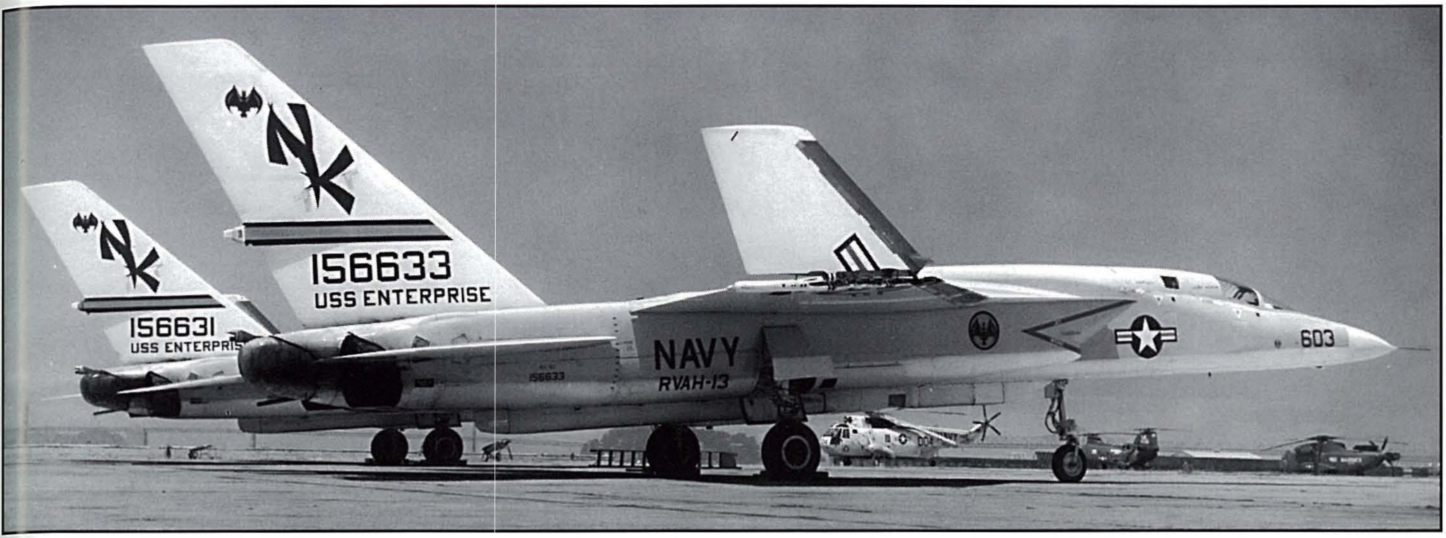




Commendation as a result of its efforts during this deployment. In April 1966 during 29 days on the line, RVAH-13 flight crews established an RA-5C combat flight hour record of 351 hours. The Kitty Hawk returned to CONUS on 13 June 1966 with the loss of twenty aircraft in combat. Three of those losses were RA-5Cs. 151624 was lost on 20 December 1965 to unknown causes, 151632 was lost on 22 December 1965 due to AAA, and 151625 was shot down by AAA on 3 February 1966.

The "Bats" were temporarily based ashore at NAS Sanford, FL, from July through September 1966. In November, the squadron commenced a second combat deployment from the deck of the Kitty Hawk. The squadron flew 421 combat sorties over North Vietnam and flight crews were awarded 1 Navy Cross, 15 Distinguished Flying Crosses, 73 Air Medals, 15 Navy Commendation Medals with Combat Distinguishing Devices and 1 Purple Heart. CVA-63 returned to the states on 20 June 1966 with the loss of fourteen aircraft in combat. Once again, two of those losses were RA-5Cs. 151627 was lost to AAA on 9 March 1967 and 150826 was shot down by AAA on 19 May 1967.

The squadron returned to Sanford from June 1967 through April 196, during which time the squadron won the largest readiness exercise ever conducted by CRAW-1 and was subsequently awarded the CRAW-1 REDEX 68 pennant. In April 1968, the squadron joined America and Attack Carrier Wing Six for an Operational



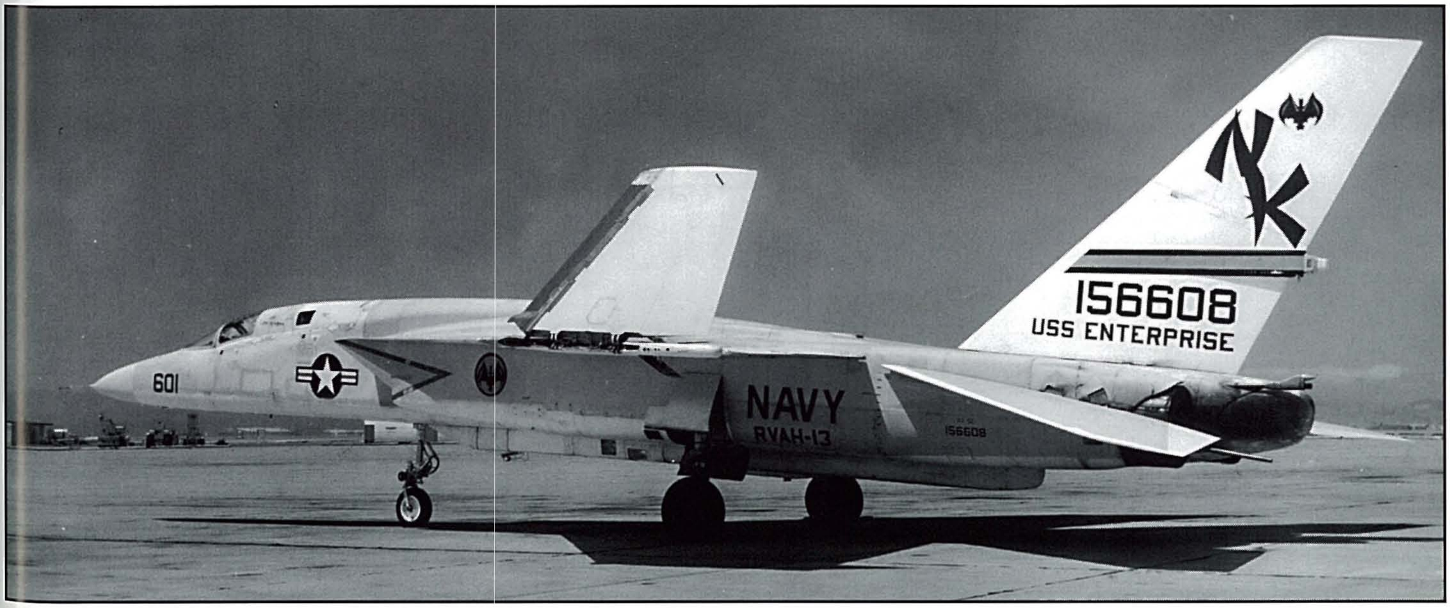
Readiness Inspection to the Caribbean. The squadron's third combat deployment commenced in May 1968 aboard the USS America (CVA-66). During this deployment RVAH-13 flew 719 sorties, of which 524 were combat sorties over North Vietnam. Flight crew awards included 1 Bronze Star, 2 individual Air Medals, 23 Navy Commendation Medals, 84 Strike / Flight Medals, 11 COMSEVENTHFLT Letters of Commendation and 49 USS America Commanding Officer Letters of Commendation.

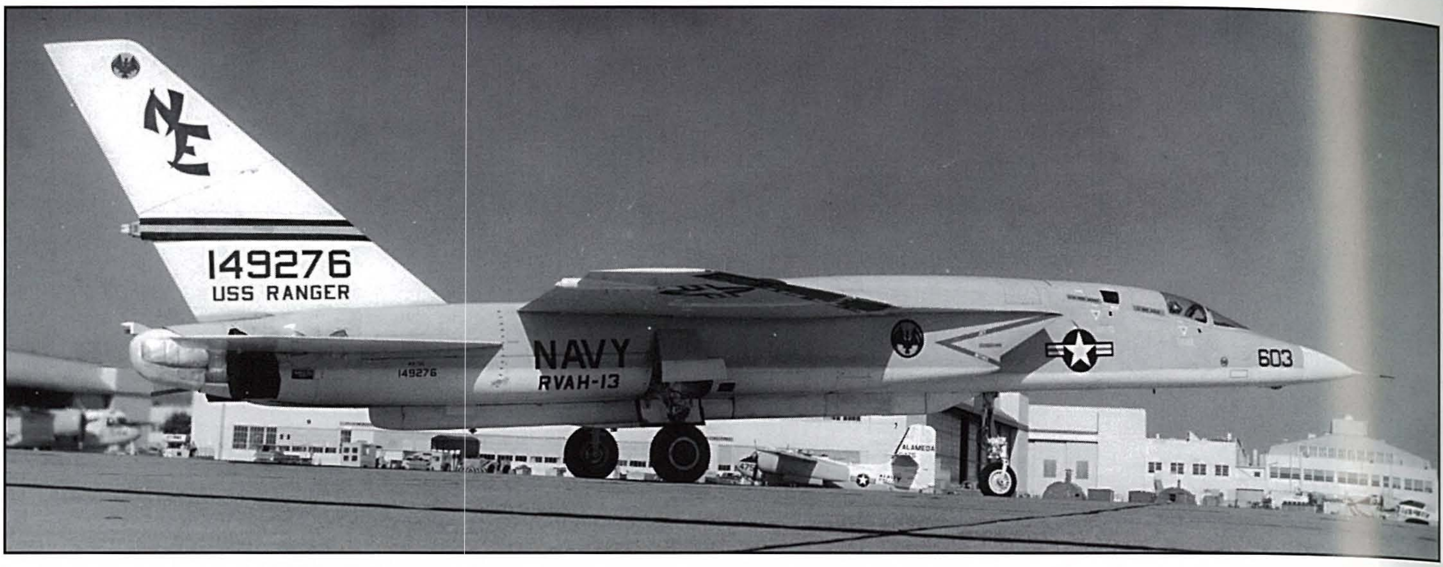
On 16 December 1968, the squadron returned to CONUS and its new home base at NAS Albany, GA. From April through July 1969, the "Bats" operated from the USS Independence (CVA-62) in waters off the East Coast. In September through November 1969, refresher training was conducted aboard the USS Forrestal (CVA-59) as part of CVW-17. The unit scored the highest grade in the Air Wing during the ORI.

On 2 December 1969, RVAH-13 was presented the CNO Aviation Safety award. The following day, the squadron sailed from Norfolk, VA, aboard Forrestal for a seven-month deployment to the Mediterranean. During the cruise, they visited France, Spain, Italy, Malta, Greece and other Mediterranean ports. On 20 February, CDR D. C. Coleman made the 150,000th arrested landing aboard Forrestal in an RA-5C. In June 1970, CVA-59 steamed to the coast off Israel, where she patroled the off-shore waters in an alert status during the evacuation of American citizens from Jordan. On 8 July 1970, RVAH-13 returned to CONUS and NAS Albany. During the cruise two aircraft were lost by RVAH-13. 150825 was lost on 23 January 1970 and 149316 was lost on 2 February 1970. In both cases the crew ejected safely.

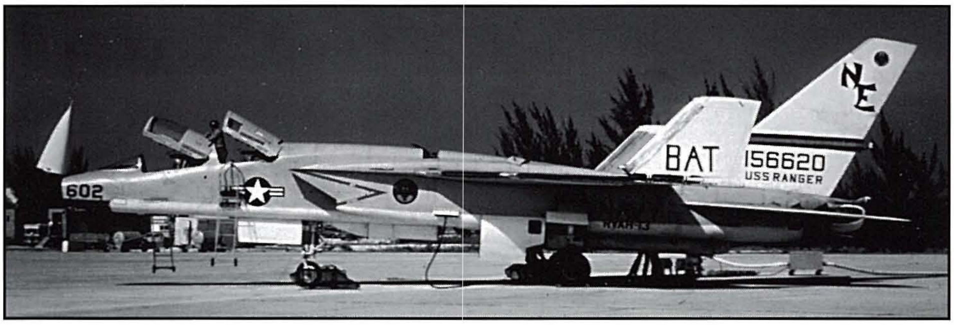
On 5 July 1971, RVAH-13 once again embarked in America and departed Norfolk for a five-month Med cruise. On 20 October, the

Above, RVAH-13 RA-5C BuNo 156633 and 156631 at NAS Alameda, CA, on 16 July 1972. (William Swisher) Below, RVAH-13 RA-5C BuNo 156608 at Alameda on 15 July 1972. Tail stripe was red outlined in black. (William Swisher)





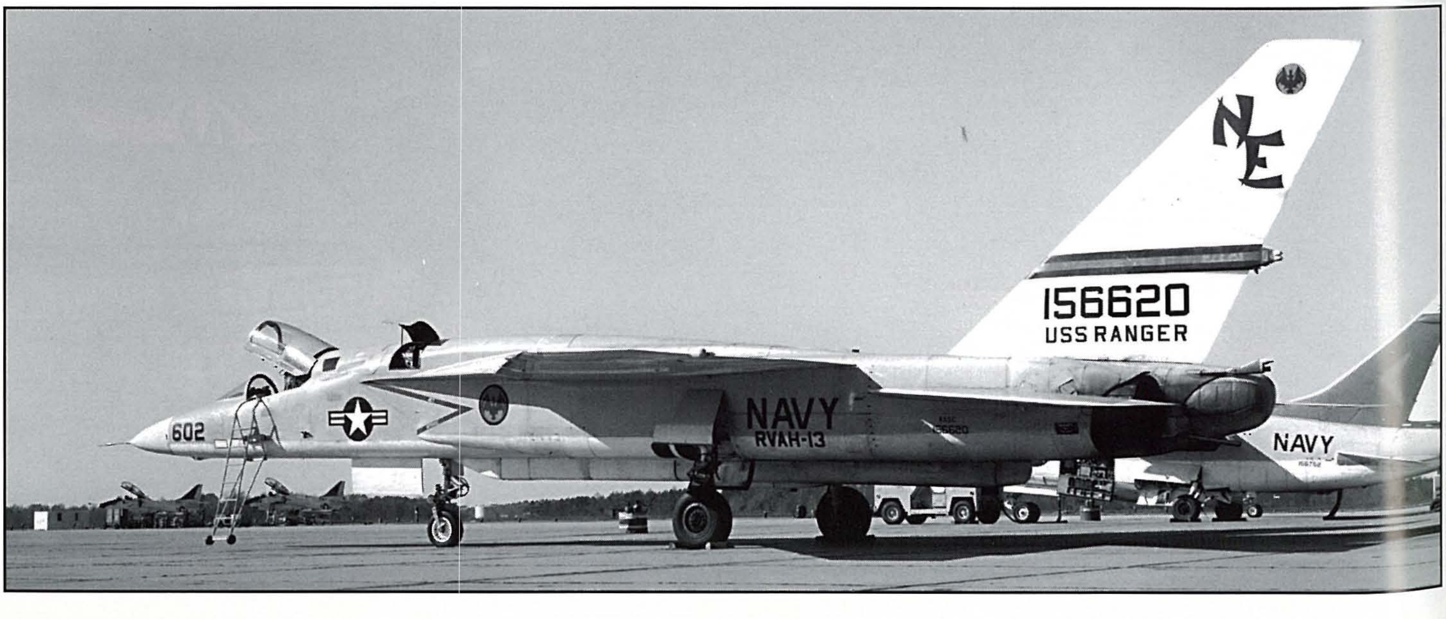
Above, Ranger-based RVAH-13 RA-5C BuNo 149276 at NAS Alameda, CA, on 2 May 1974. (William Swisher) Below, BuNo 156620 with "BAT" painted on the outer wing panel in 1974. (via Burger) Bottom, 156620 at NAS Oceana on 14 November 1974. (Carlton Eddy via Norm Taylor)

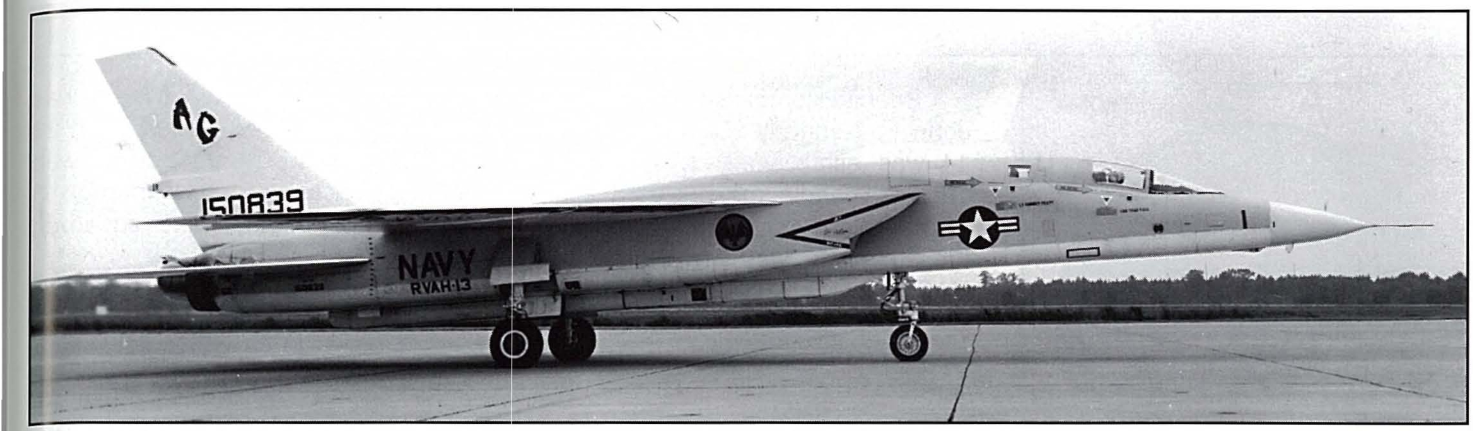


squadron received the AIRLANT safety award for 1971. The unit returned to Albany in December 1971.

In July 1972, the squadron flew to San Francisco where it joined the USS Enterprise (CVAN-65) as part of CVW-14. After six weeks of shipboard activities and completing an ORI with an overall score of excellent, the squadron returned to Albany. On 12 September, RVAH-13 was aboard Enterprise again as the ship left NAS Alameda for a combat tour against North Vietnam. The first combat sorties commenced on 28 September and continued up until the end of the Vietnamese conflict on 27 January 1973. After the 27th, the squadron's efforts were that of ship surveillance in the Gulf of Tonkin. The "Bats" returned to NAS Albany in June 1973. During the cruise, RA-5C 156633 was shot down by a MiG-21 with LCDR A. H. Agnew being captured and LT M. F. Haifley being killed. This was the last Vigilante to be lost in combat in Vietnam.

On 3 October 1973, the squadron was honored with a CNO award for three years of accident free operations. In April 1974, the squadron

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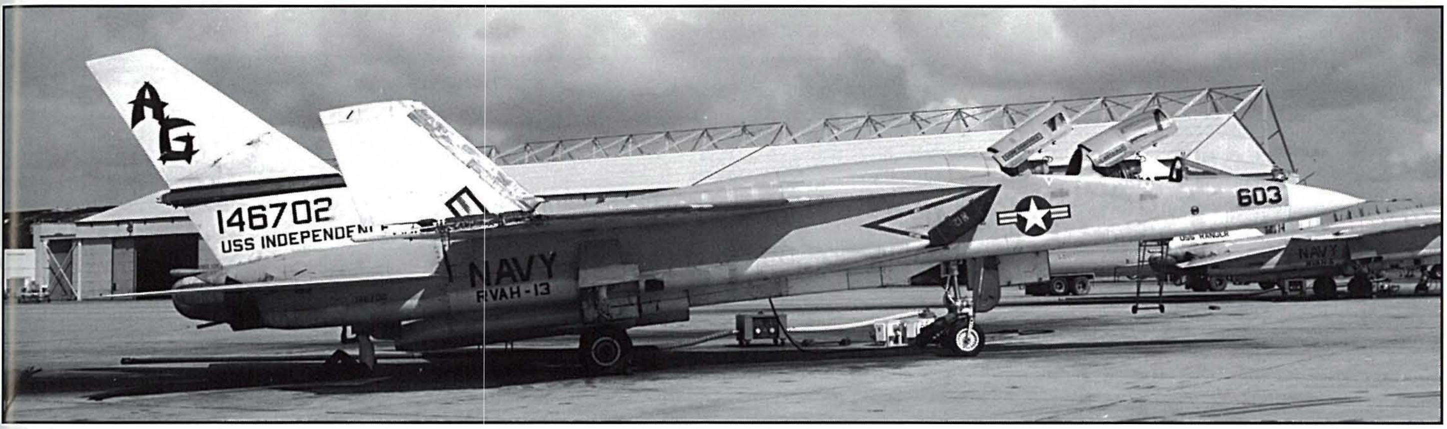
moved to NAS Key West, FL, where training was conducted in preparation for a WestPac deployment aboard the USS Ranger (CVA-61), from 7 May through 18 October 1974.

The squadron's final deployment before it disestablished on 30 June 1976 was to the Med aboard the USS Independence (CVA-62) from 15 October 1975 through 5 May 1976.

Above, Independence-based RA-5C BuNo 150839 in 1975. (D. Kasulka via William Swisher) Below, BuNo 146702 at NAS Key West, FL, on 11 August 1975. (R. O'Dell via Norm Taylor) Bottom, BuNo 156639 trapping aboard (CVA-62) in 1976. (USN)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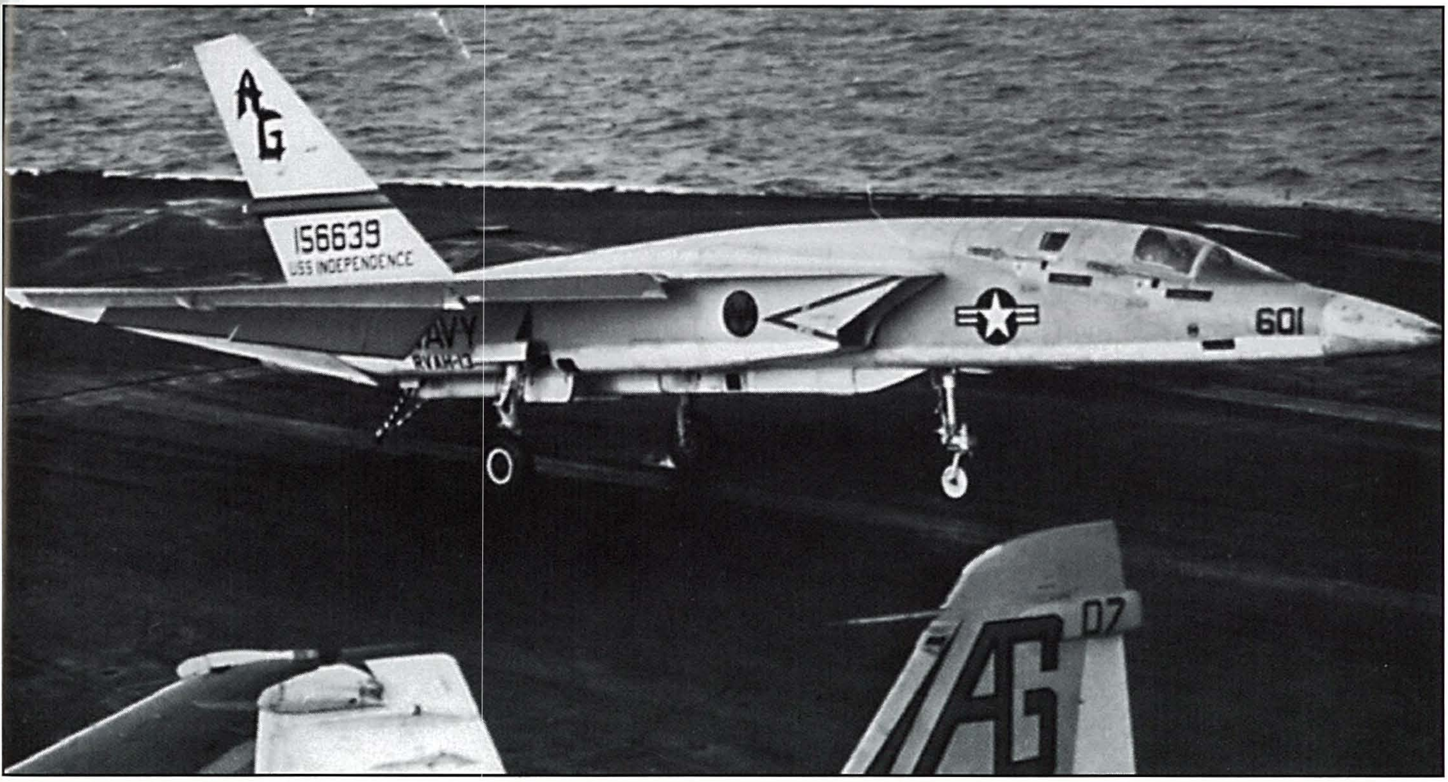
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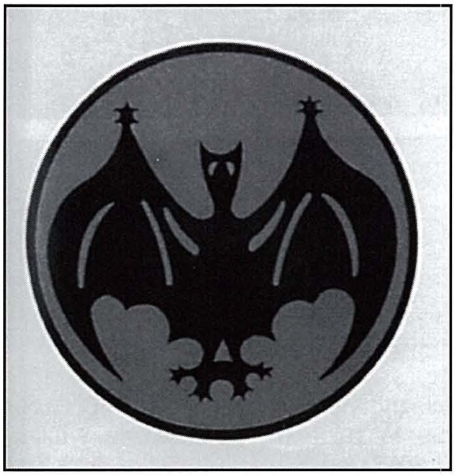
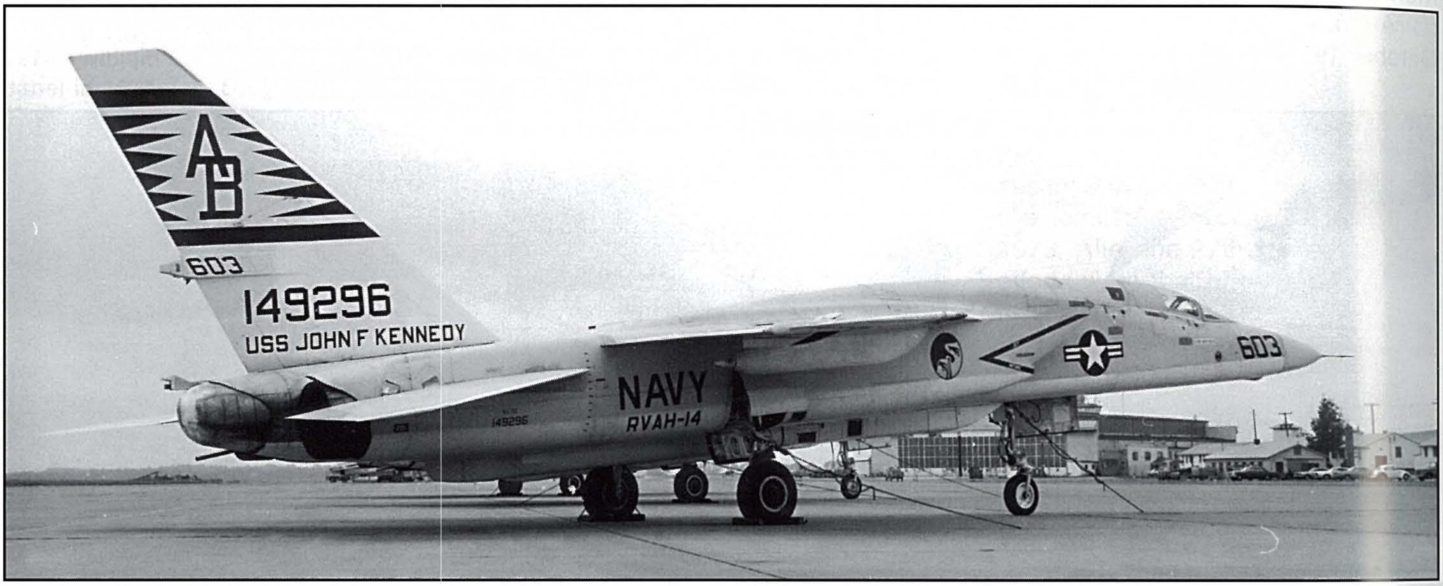
RVAH-14 "EAGLE EYES"

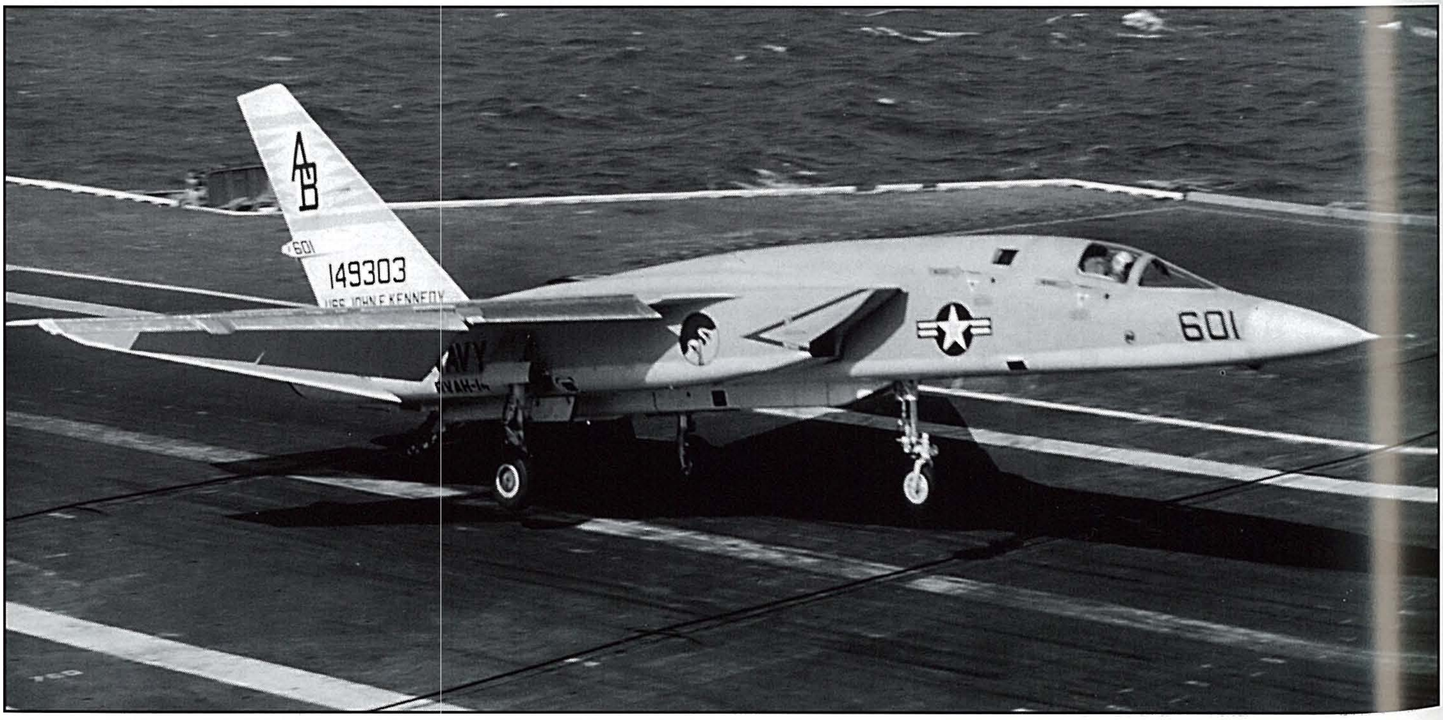


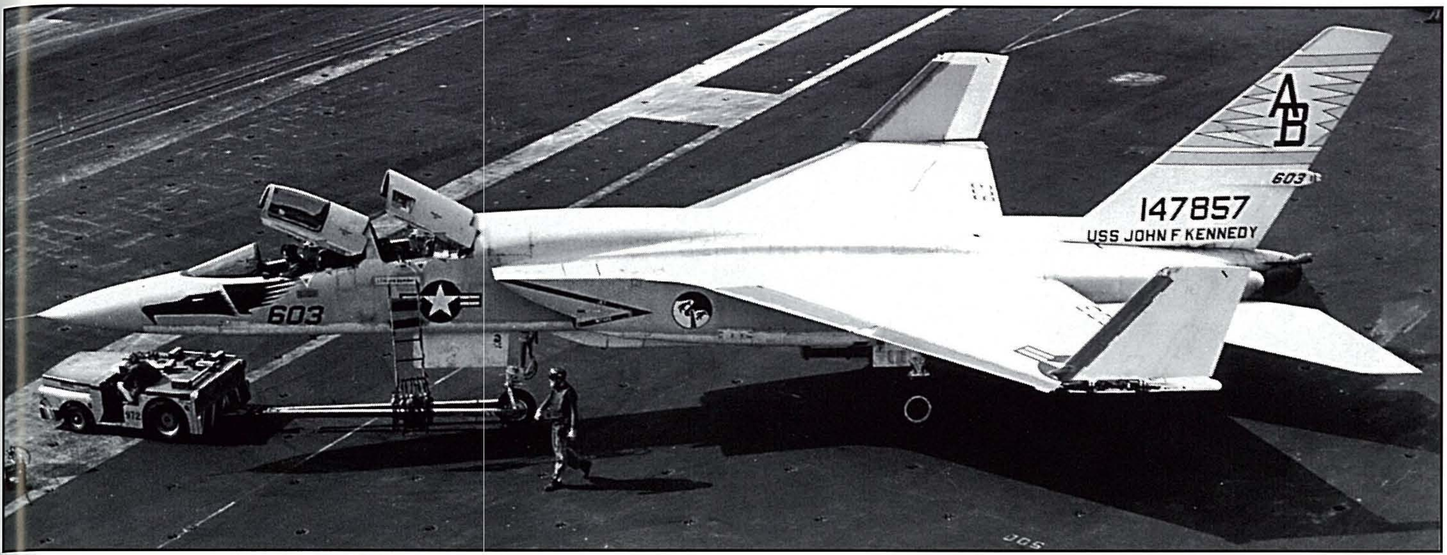
Prior to commissioning the USS John F. Kennedy (CVA-67), RVAH-14 was established on 1 February 1968 to handle the carrier's Heavy Recon role. Prior to their first cruise, the squadron was transferred from NAS Sanford, FL, to NAS Albany, GA, on 1 May 1968.

The squadron made three Mediterranean deployments aboard the J.F.K. and one aboard the USS Independence (CVA-62). Their first deployment was from 5 April 1969 through 20 December 1969. The squadron's second deployment was from 14 September 1970 through 28 February 1971. The third cruise was from 1 December 1971 through 6 October 1972 where the squadron

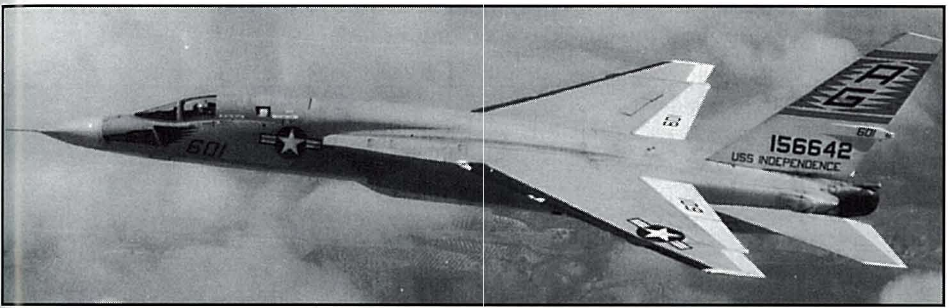
Below, RVAH-14 RA-5C BuNo 149296 at NAS Albany, GA, in 1970. Tail markings were black. (D. Kasulka via William Swisher) Bottom, RVAH-14 RA-5C BuNo 149303 traps aboard Kennedy on 26 November 1968. Tail markings were medium blue. (USN via Fred Roos)


AB
603
149296
USS JOHN F KENNEDY
NAVY
RVAH-14
149296
603


AB
601
149303
USS JOHN F KENNEDY
NAVY
RVAH-14
601

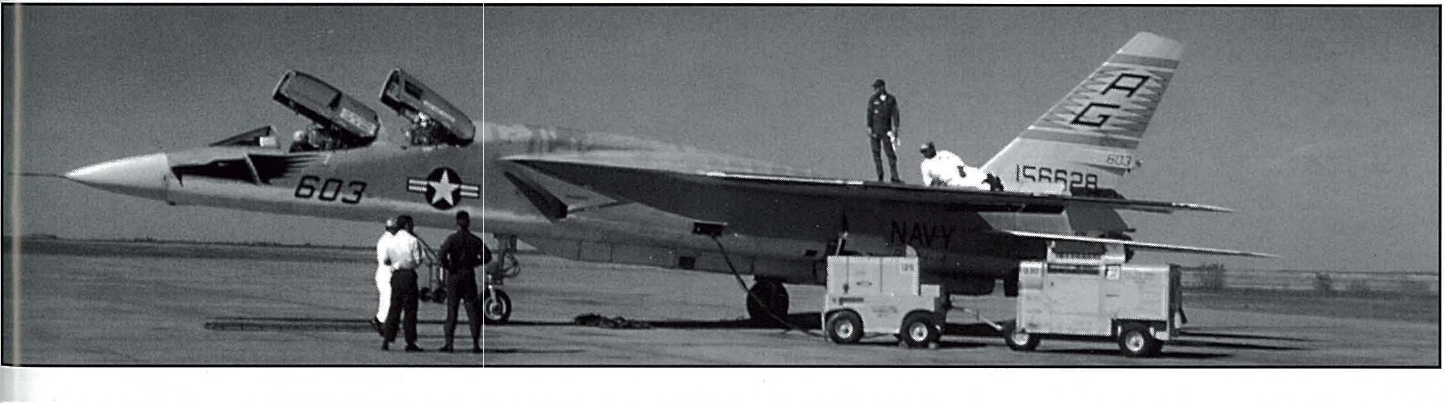

AB
603
147857
USS JOHN F KENNEDY
603

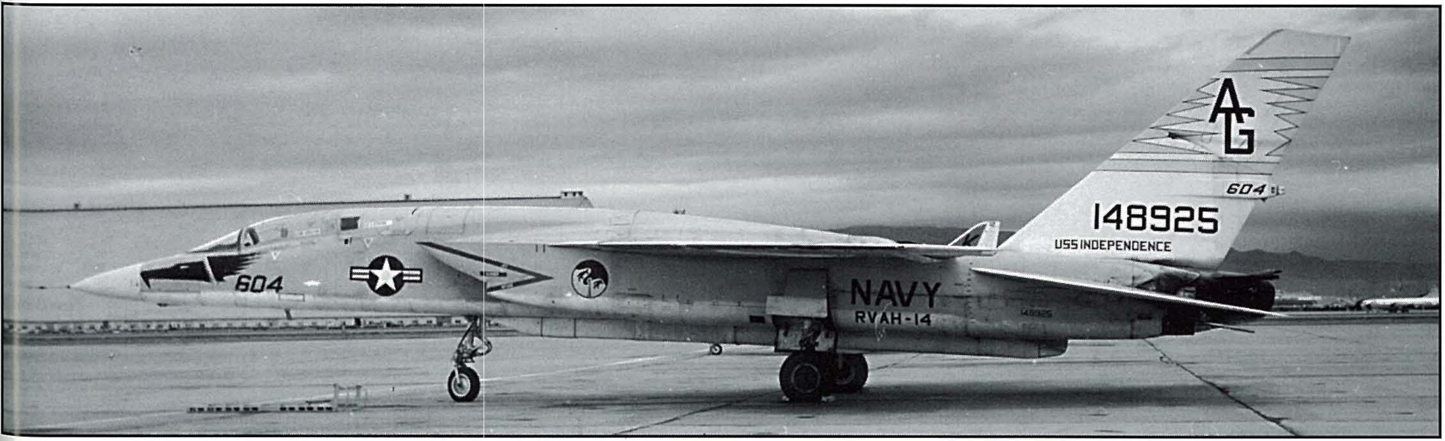
Above, BuNo 147857 on the deck of the USS John F. Kennedy (CVA-66) in 1972. Tail markings were medium blue and eagle on nose was black. (via Burger) Below, Independence-based RVAH-14 RA-5C BuNo 156642 with medium blue tail markings. (USN) Below middle, BuNo 156628 from the Indy on 6 April 1974. (Don Logan via Kaston) Bottom, BuNo 148925. Note black outlines to the tail markings. (Fred Roos)


AG
601
156642
USS INDEPENDENCE
601

won the Golden Tailhook Award. The forth deployment was from 21 June 1973 through 19 January 1974.

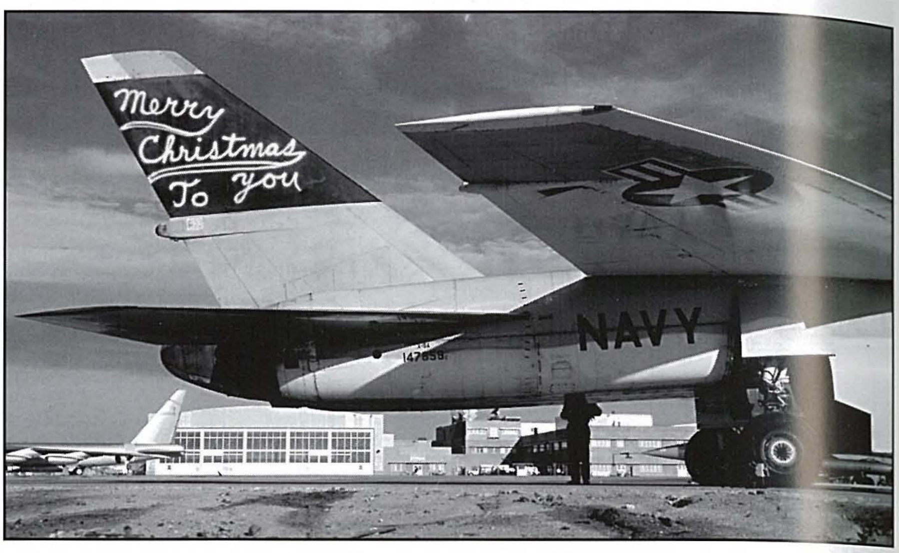
The squadron was disestablished on 1 May 1974 and was the only Vigi squadron not transferred to NAS Key West, FL.


AG
603
156628
603
NAVY

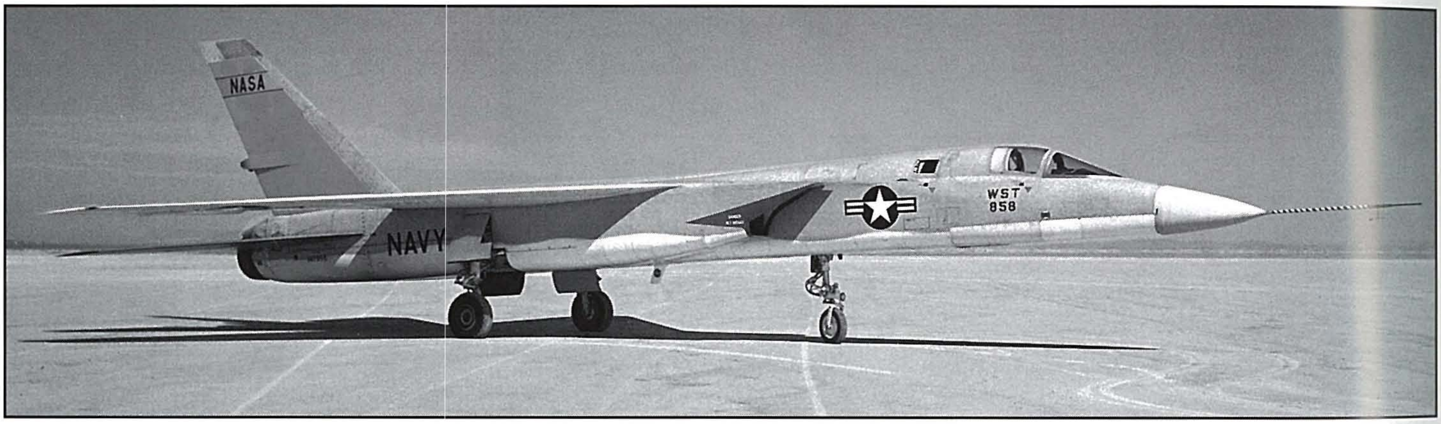

AG
604
148925
USS INDEPENDENCE
604
NAVY
RVAH-14

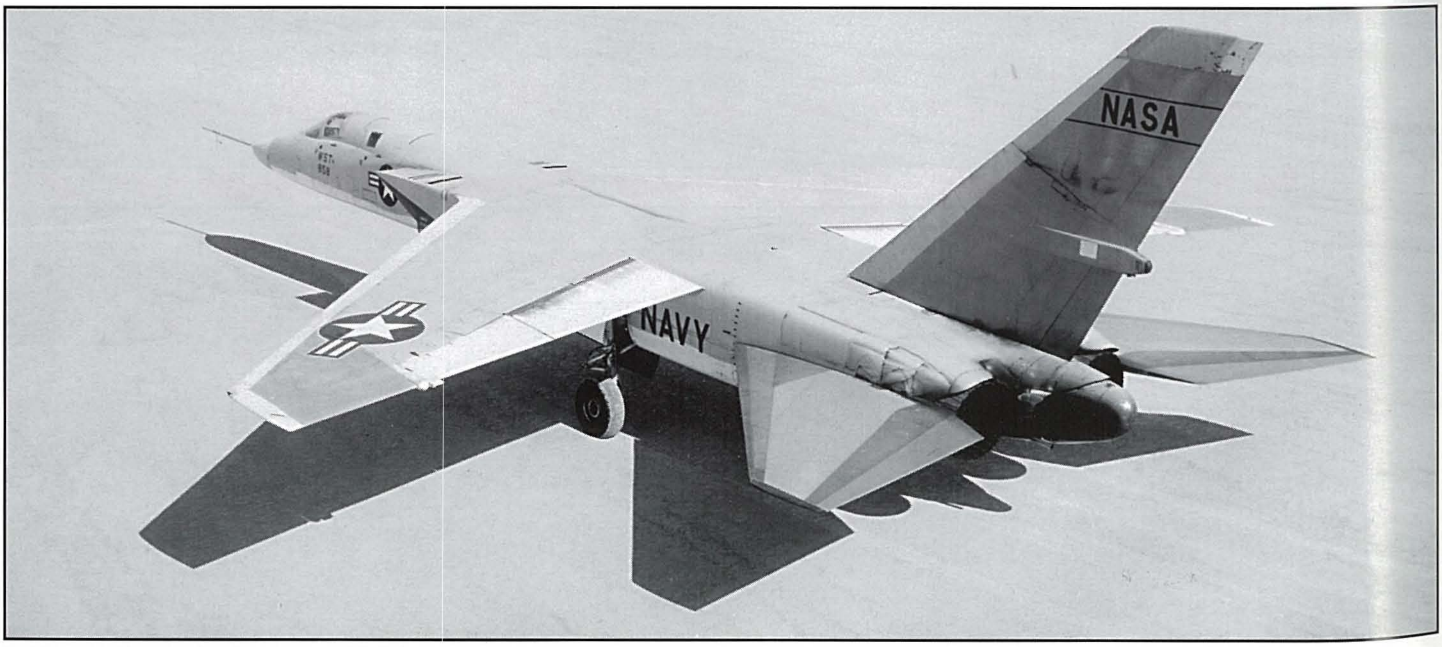
NASA A-5A

From 19 December 1962 through 20 December 1963, NASA Dryden's Flight Research Facility at Edwards AFB, CA, was loaned A-5A 147858 for simulation studies for the American SST program. It was also used in sonic boom and noise pollution programs. After completion of the programs, 147858 was returned to the Navy and converted to a RA-5C.

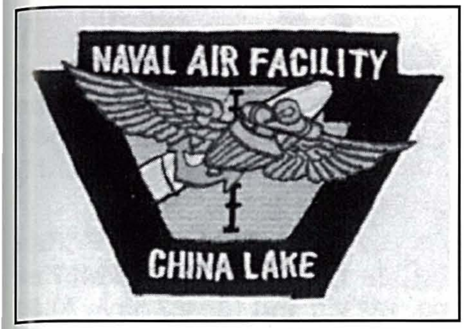


Above, NASA A-5A 147858 with a seasonal message applied to the tail. (via Craig Kaston) Below, NASA A-5A 147858 on the Muroc lake bed on 25 October 1963. Vertical tail was red with yellow NASA stripe outlined in dark blue. (NASA) Bottom, NASA A-5A on the lakebed. Note outer wing flap was fixed on the A-5A, but not on the RA-5C. (via Craig Kaston)

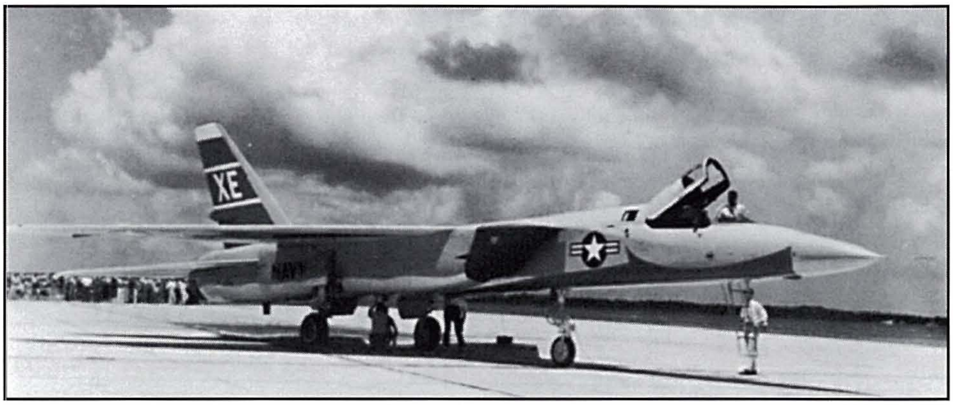




NAVAL AIR ORDNANCE TEST STATION (NOTS) AND VX-5

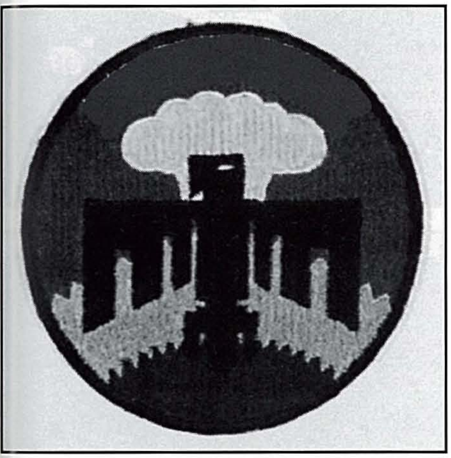


On 8 November 1943, the Naval Ordnance Test Station (NOTS) was established to conduct rocket and aviation ordnance testing and development.



Above, A3J-1 BuNo 147856 was originally assigned to VX-5, before being transferred to NWEF. VX-5 continued to support weapons testing by assigning crews from Det Alfa to NWEF. Belly and tail trim was da-glo red. Tail stripe was green. (D. Olson via Berger)

NAVAL WEAPONS EVALUATION FACILITY (NWEF)

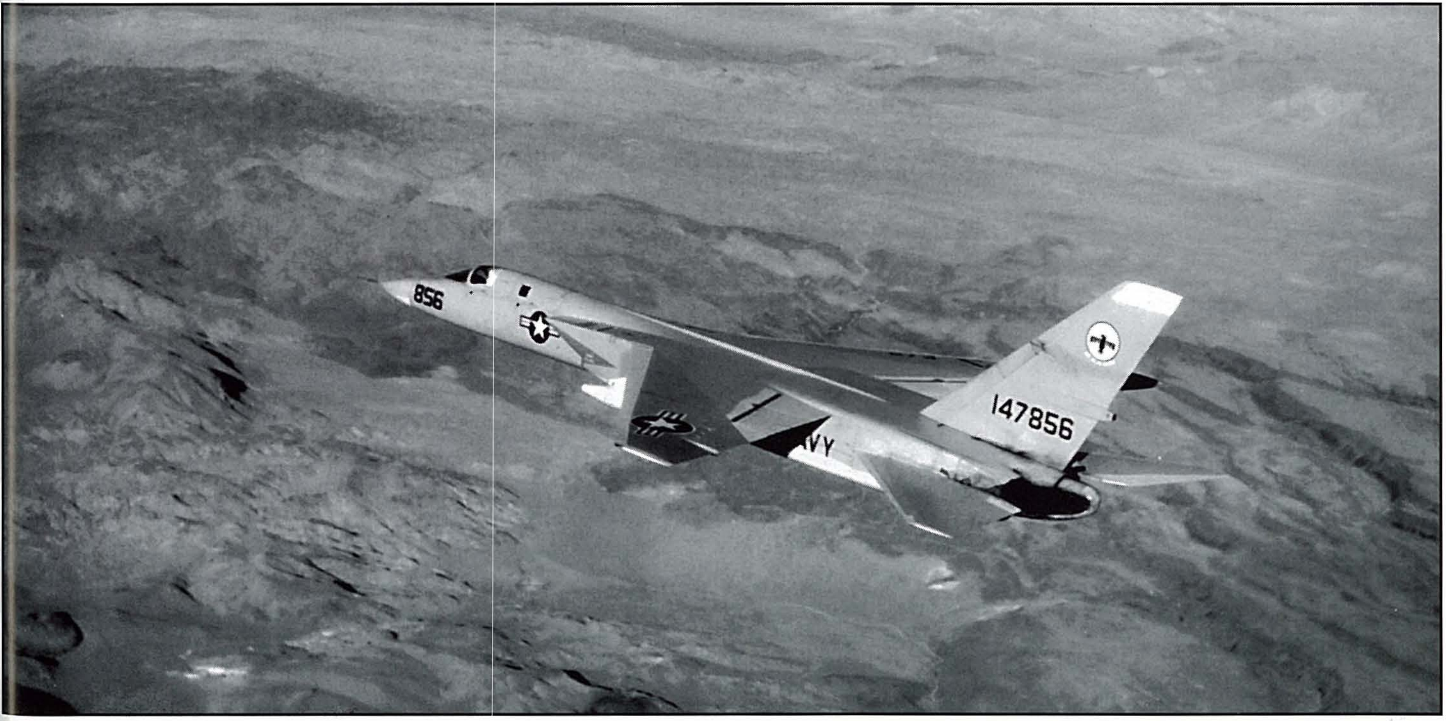


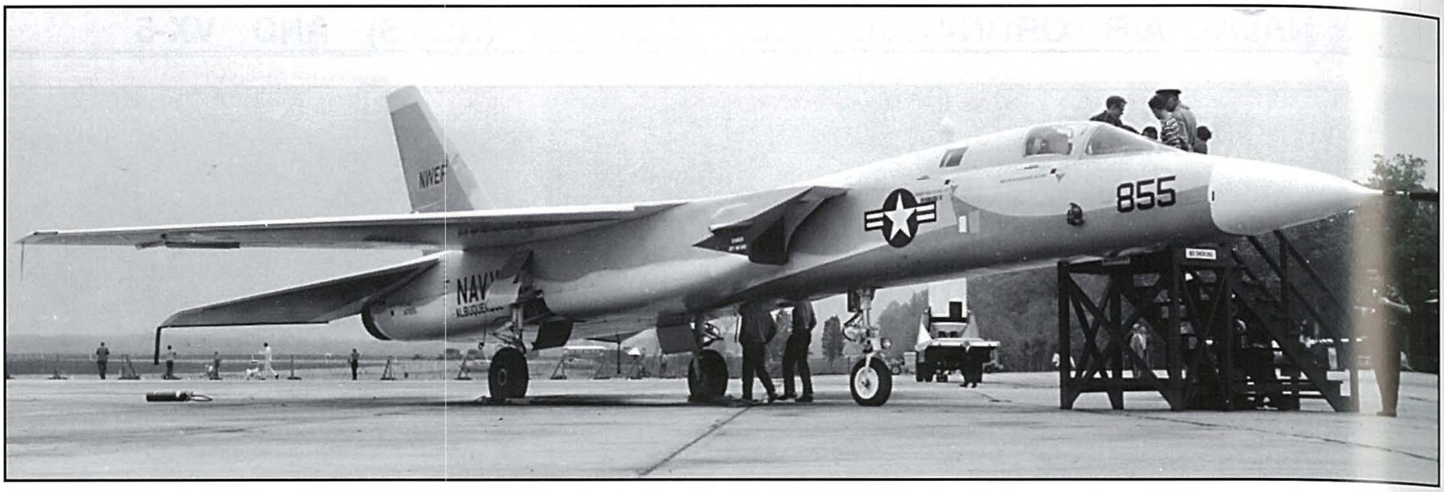
Around 1952 a unit was formed at Kirtland AFB called the Naval Air Special Weapons Facility (NASWF). The designation was changed in 1961 to the Naval Weapons Evaluation Facility (NWEF).

The units main purpose was to test, develop and evaluate hardware and procedures for mounting and using new nuclear and other special weapons on current and new Navy and Marine aircraft.

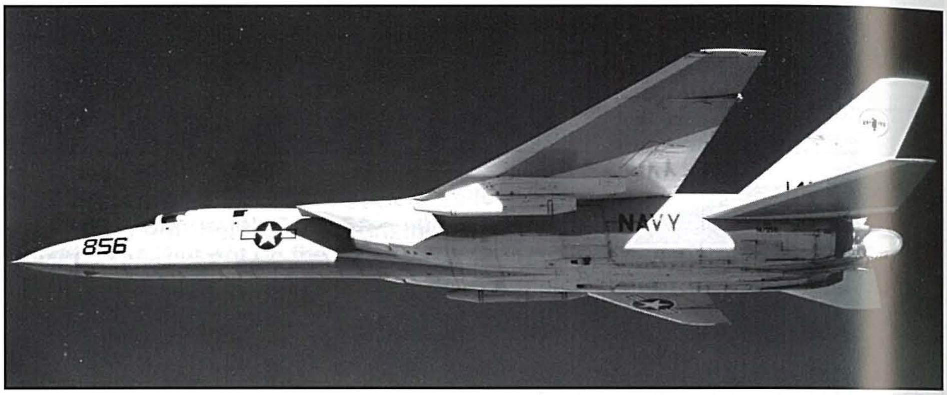
In 1961, the A3J-1 was received for weapons testing at the White Sands Missile Range. The tests were flown by NWEF crews and pilots from VX-5, Detachment Alfa.

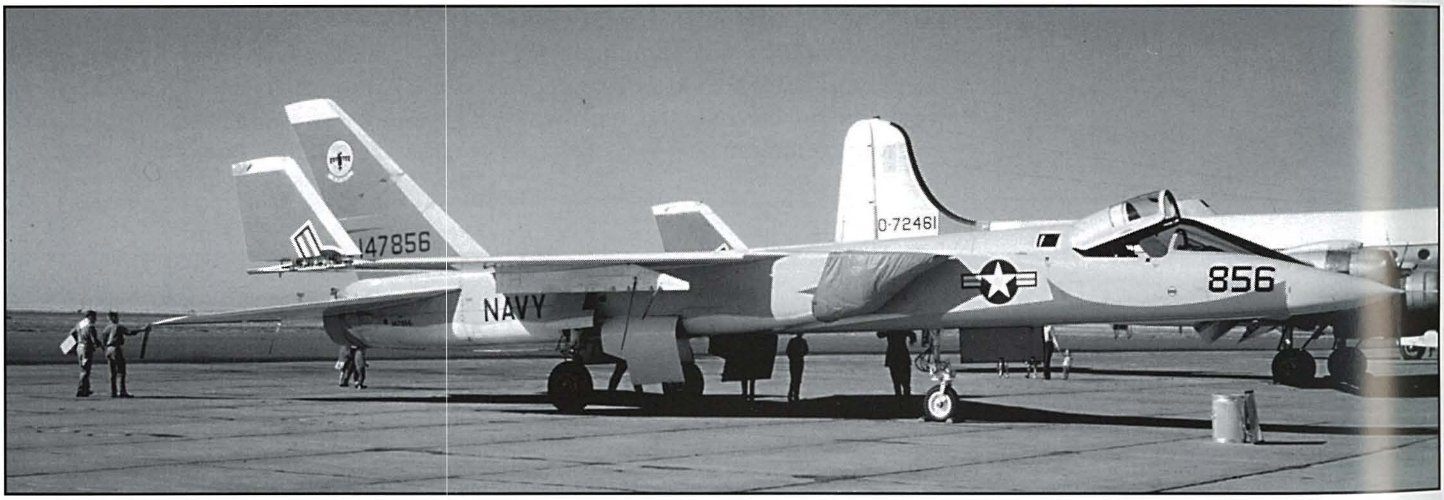
Below, A3J-1 147856 with the NWEF Thunderbird logo on the tail was being flown by LCDR Joe Akins, OIC Det Alfa. (USN via Gary Varner)

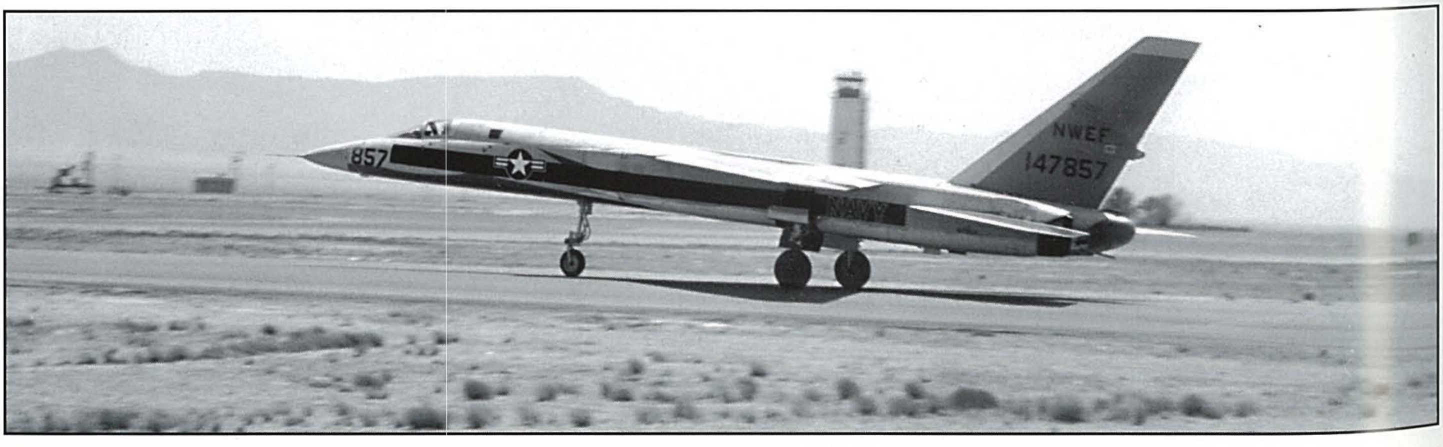



NWEF
855
NAVY

Above, NWEF A3J-1 BuNo 147855 during a 1961 open house. Belly and tail trim was da-glo red. (via Burger) At left, NWEF A3J-1 BuNo 147856 in flight showing underwing da-glo red pattern. (USN via Gary Varner) Below, NWEF A3J-1 BuNo 147856 at Kirtland AFB in November 1961. Engine intake covers were red. (Steve Brown) Bottom, NWEF A3J-1 BuNo 147857 taxis at Kirtland AFB in 1961-62. Tail was da-glo red. (Steve Brown)




147856
0-72461
NAVY
856


857
NWEF
147857
NAVY

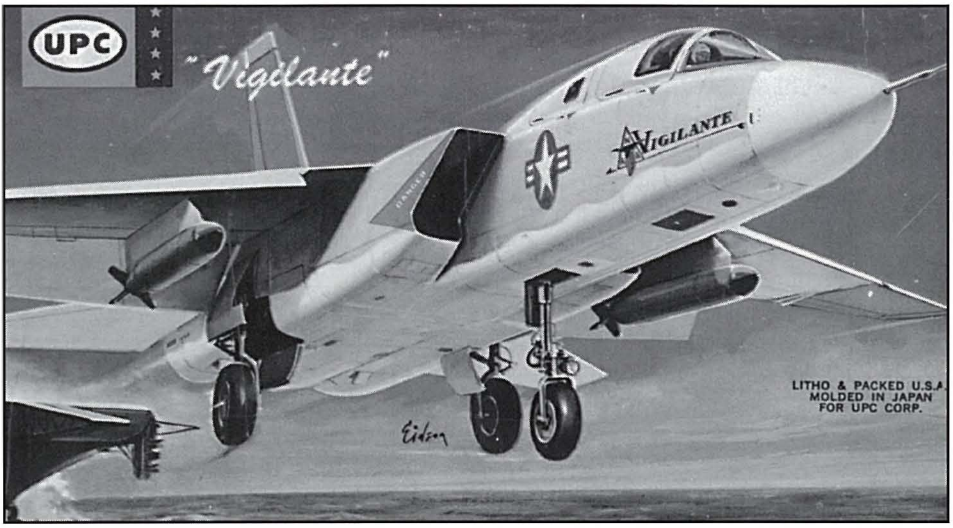
UPC AND MONOGRAM VIGILANTE PLASTIC MODEL KITS

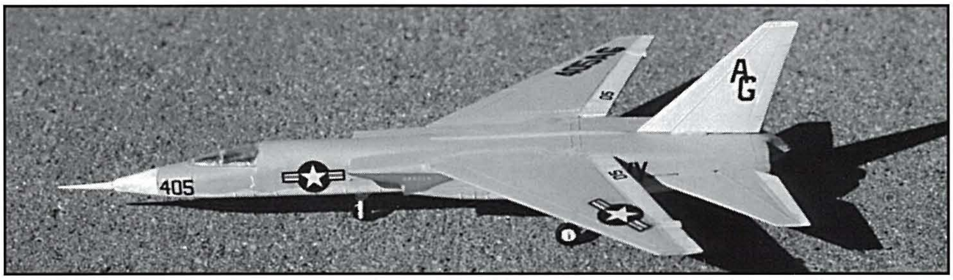
UPC KIT:

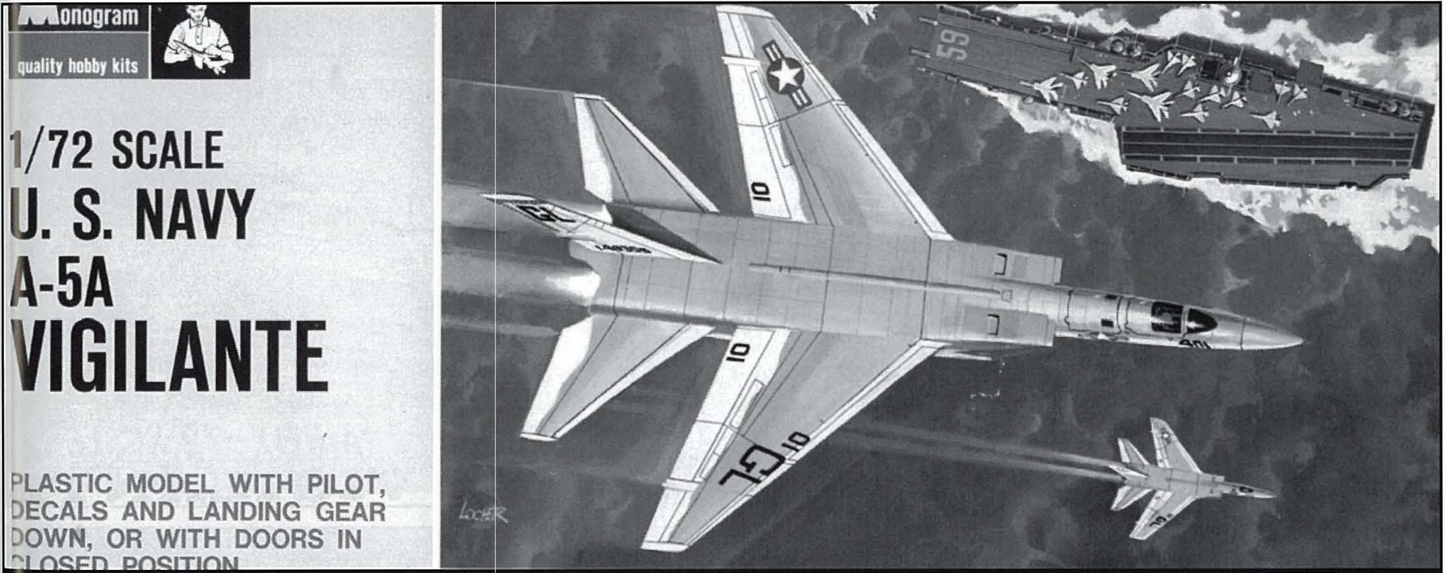
UPC offered an A3J-1 kit which was packaged in a box that was labeled constant HO scale, however the kits scale more closely approximates 1/129th scale. It was a re-boxed ex-Marisan kit and very crude by any standard. Wing pylons and bombs as shown on the box top were not included in the kit.

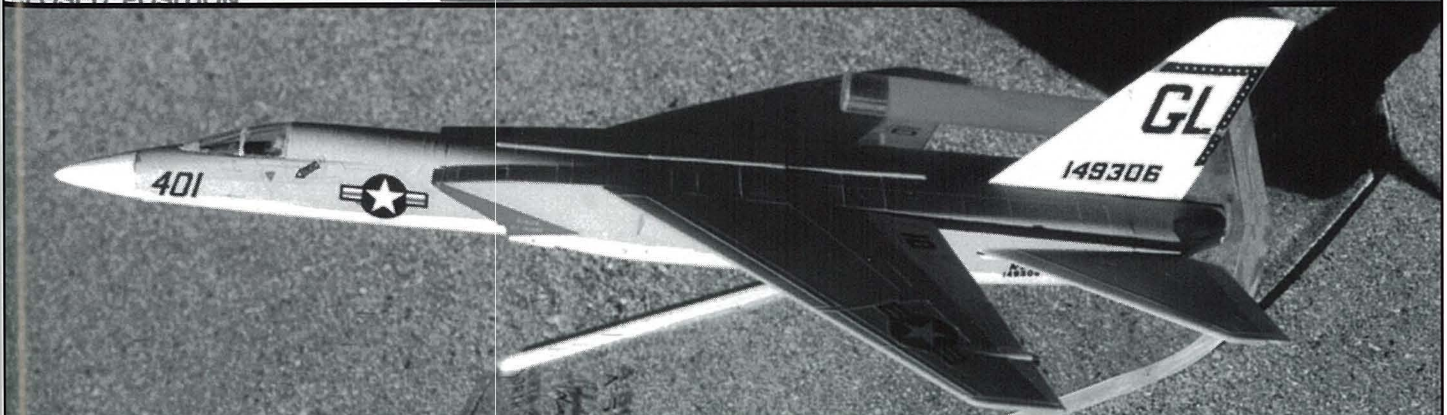
MONOGRAM KIT:

The Monogram A-5A Vigilante kit was an action model that ejected a bomb out the linear bomb bay. It was not very accurate and was molded in 1/76th scale. Canopy glass was not provided for the back-seater and the landing gear was rather crude. Like the Revell kit, decals depicted a VAH-7 aircraft, the first squadron to deploy this version.


UPC
"Vigilante"
VIGILANTE
LITHO & PACKED U.S.A.
MOLDED IN JAPAN
FOR UPC CORP.



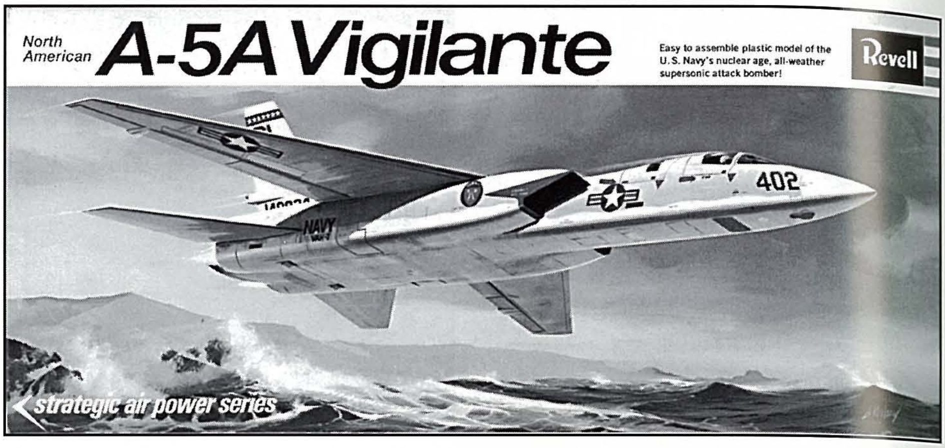

Monogram
quality hobby kits
1/72 SCALE
U. S. NAVY
A-5A
VIGILANTE
PLASTIC MODEL WITH PILOT,
DECALS AND LANDING GEAR
DOWN, OR WITH DOORS IN
CLOSED POSITION
59
GL
LOCHER

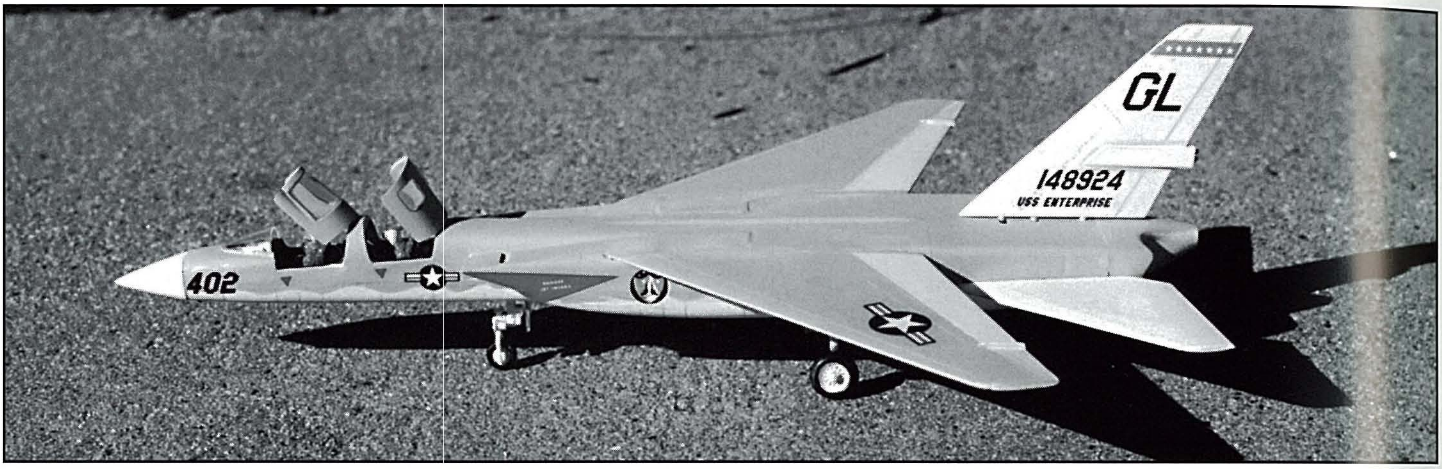

GL
149306
401

REVELL AND AIRFIX VIGILANTE PLASTIC MODEL KITS

Revell kit:

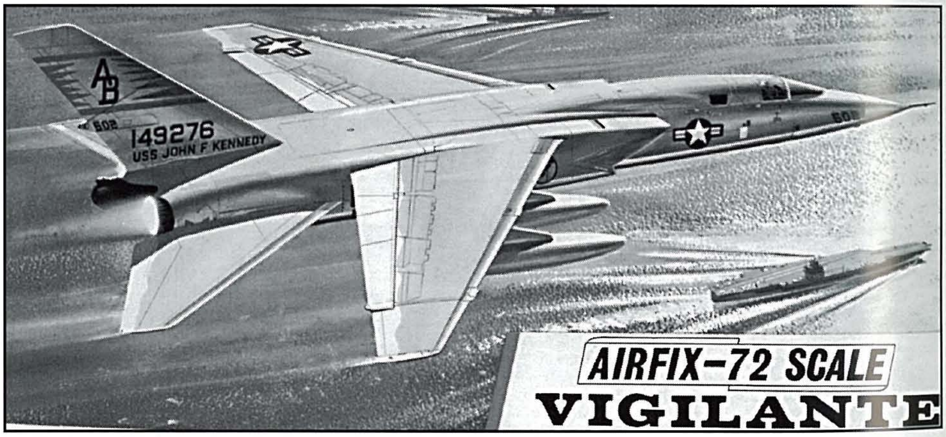
The Revell A-5A Vigilante kit featured cockpit interior detail and pilot figures and posable canopies. It was molded in 1/83rd scale and had decals for a VAH-7 aircraft. Like the Monogram kit and most other models during this time period, the landing gear was rather crude. Outside of the grossly misshapened nose cone, the kit visually appears accurate.

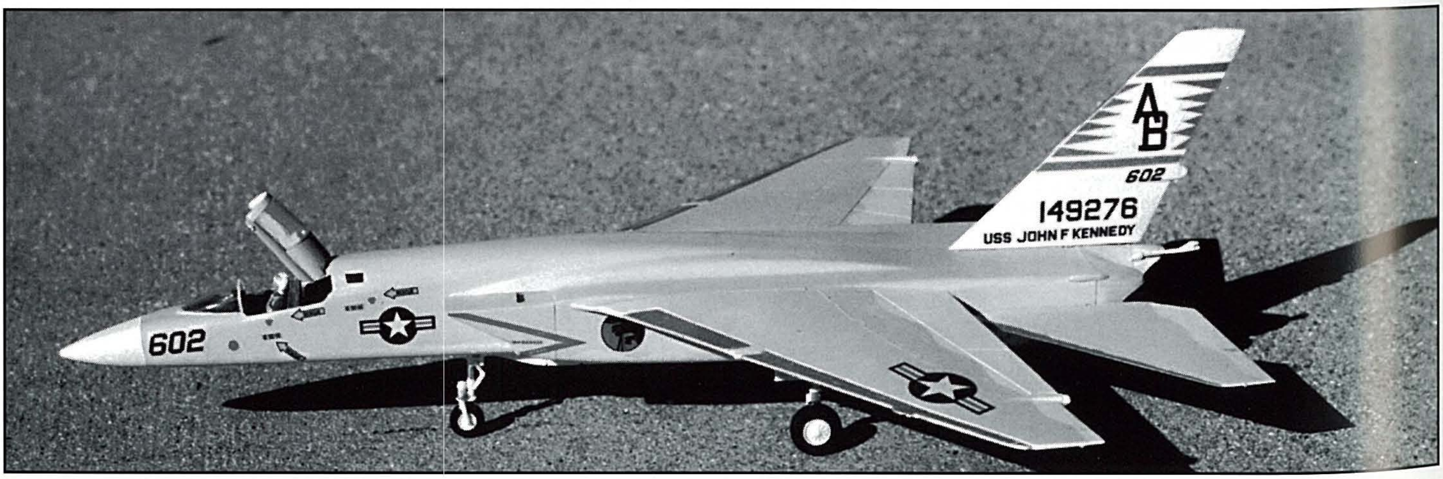

North American
A-5A Vigilante
Easy to assemble plastic model of the U.S. Navy's nuclear age, all-weather supersonic attack bomber!
Revell
402
NAVY
strategic air power series


GL
148924
USS ENTERPRISE
402

Airfix kit:

The 1/72 scale Airfix kit was similar to the Hasegawa kit, although it had 76 parts and decals for a RVAH-14 RA-5C from the USS John F. Kennedy. Like the Hasegawa kit, it was available in the late 1960s and early 1970s. The kit included four 400-gallon wing tanks and the belly-mounted sensor pod was molded separately.


AB
602
149276
USS JOHN F KENNEDY
AIRFIX-72 SCALE
VIGILANTE

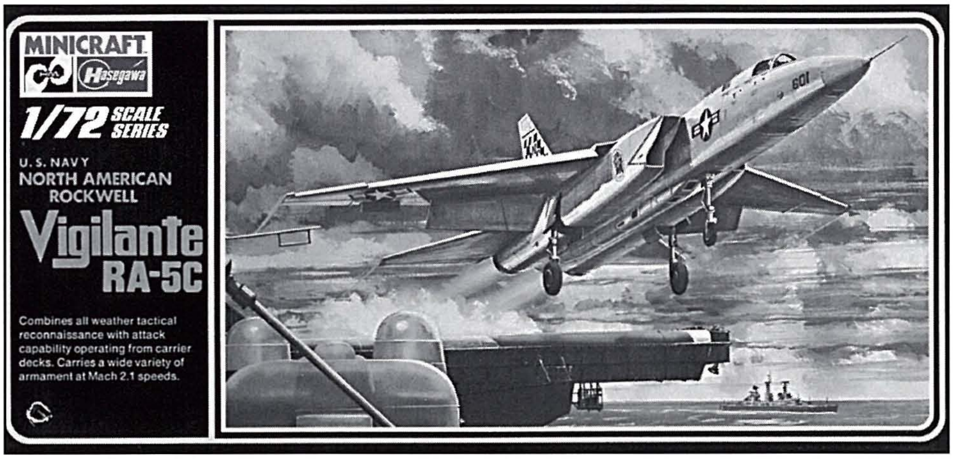

AB
602
149276
USS JOHN F KENNEDY
602

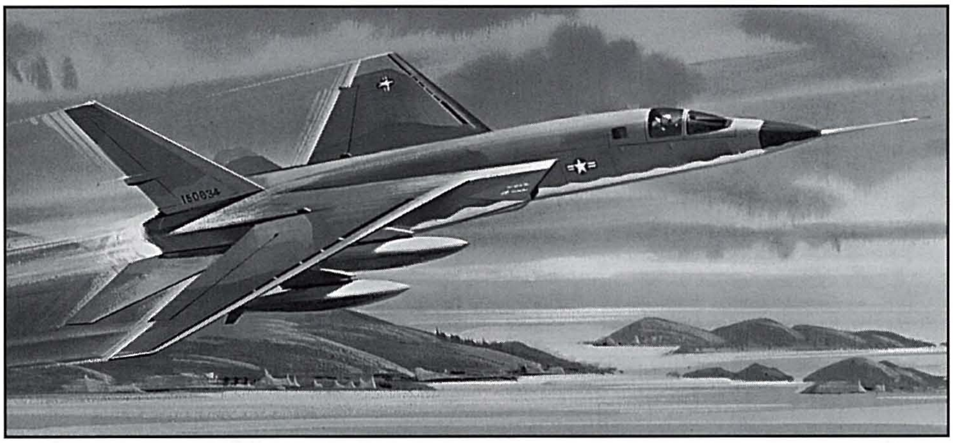
HASEGAWA/MINICRAFT, AMT, AND KANGMAN RA-5C PLASTIC MODEL KITS

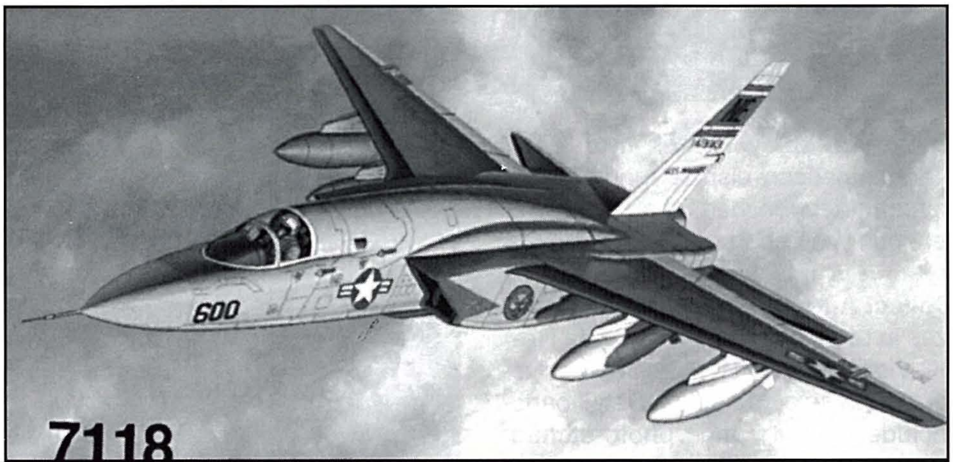
The Hasegawa 1/72 scale RA-5C kit has been released under at least four labels. These were Hasegawa, Hasegawa Minicraft, AMT, and Kangman.

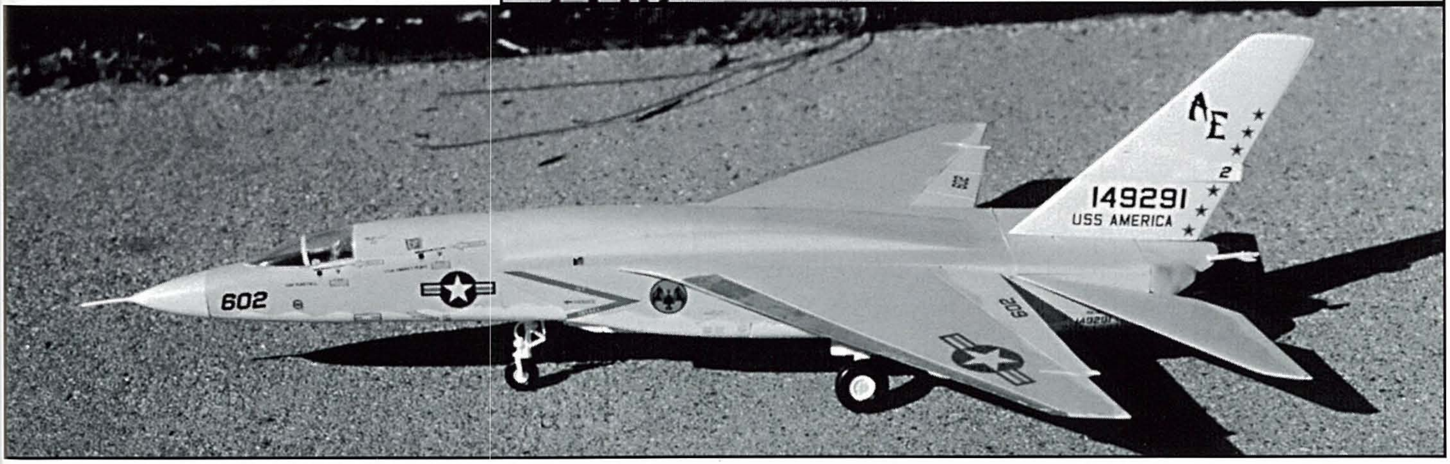
The kits contained sixty-one parts and included four 400-gallon wing tanks. The Minicraft kit had decals for RVAH-5 USS Ranger, RVAH-1 USS Independence, and RVAH-11 USS Constellation. The AMT kit only had decals for a camouflage version. The Kangman kit had poor quality, inaccurate RVAH-9 decals.

The kits released in Hasegawa, Hasegawa Minicraft, and AMT boxes were produced in the late 1960s and early 1970s. The Kangman kit is a recent reincarnation of the original kit.


MINICRAFT
Hasegawa
1/72 SCALE SERIES
U.S. NAVY
NORTH AMERICAN ROCKWELL
Vigilante
RA-5C
Combines all weather tactical reconnaissance with attack capability operating from carrier decks. Carries a wide variety of armament at Mach 2.1 speeds.
601






AE
2
149291
USS AMERICA
602

TRUMPETER, OTAKI, COLLECT AIRE AND FACTORY RA-5C MODELS

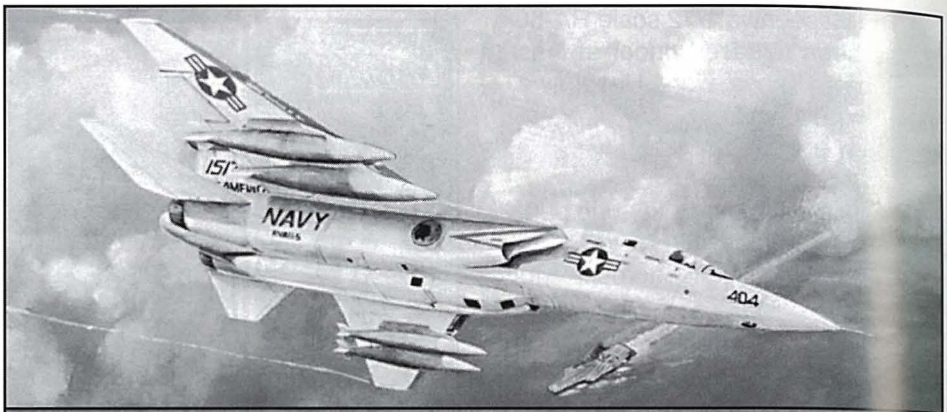
Trumpeter kits: Trumpeter released a 1/48 scale RA-5C Vigilante about the time this book became available and was scheduled to release a 1/72 scale version in April 2005.

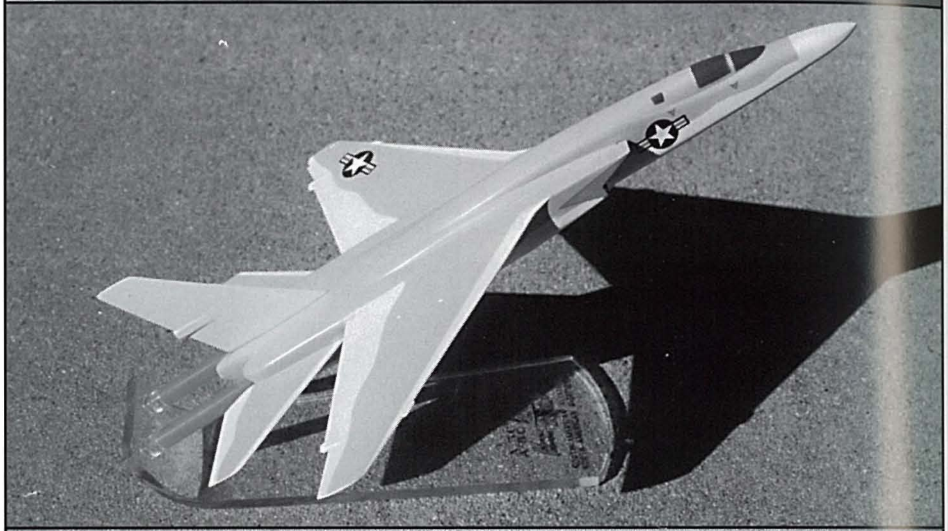
Otaki kit: Another 1970s kit was a 1/144 scale RA-5C. The kit had 21-pieces with decals for RVAH-5 (NK/602) on board the Enterprise. No example or box top was available for this book.

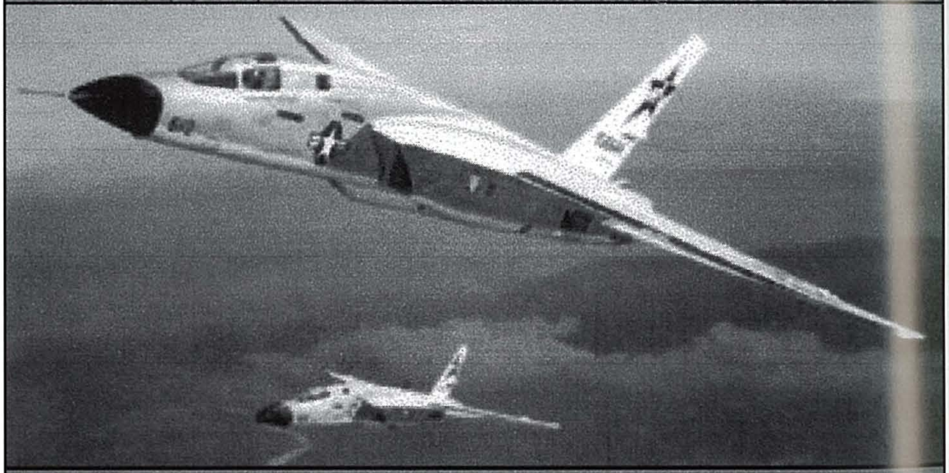
Factory Display Model: The large North American display model measures thirteen inches long and has a ten-inch wing span.

Collect Aire kit: Collect Aire specializes in resin kits. Their 1/48 scale RA-5C Vigilante builds into an impressive kit in both size and detail. Detail parts include metal and photo-etched pieces. The kit features fully detailed cockpits and canopy frames for those who like open cockpits. Decals are for a RVAH-7 aircraft and for a camoflauge version complete with readable stencils. The model depicted here was finished in the markings of an RVAH-11 aircraft aboard the USS Forrestal.

The model can be purchased directly from Collect Aire at 166 Granville Lane, North Andover, MA, 01845. (978) 688-7283, fax (978) 685-0220. www.collectaire.com

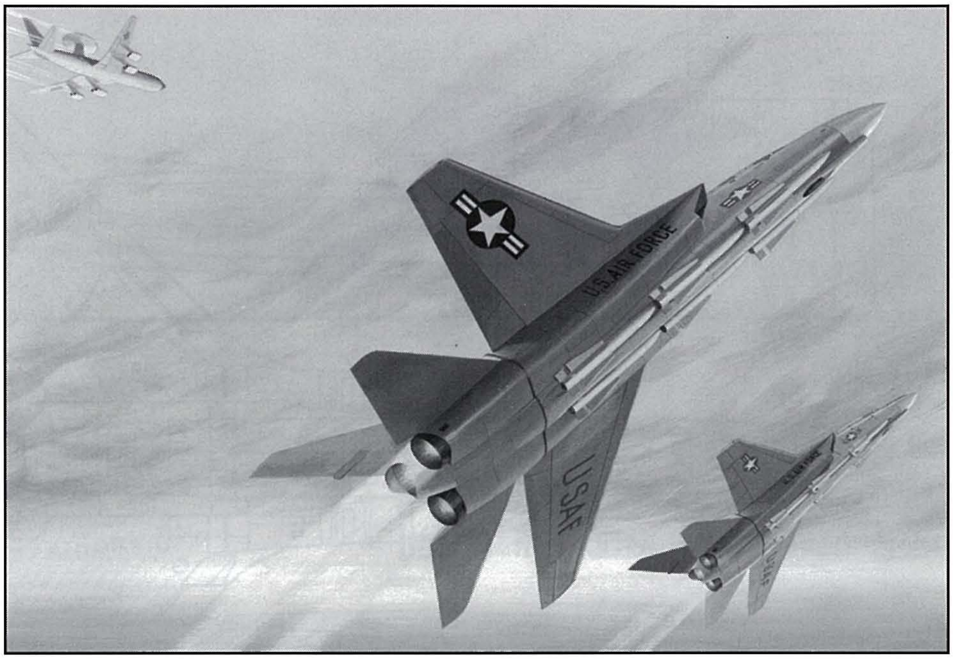


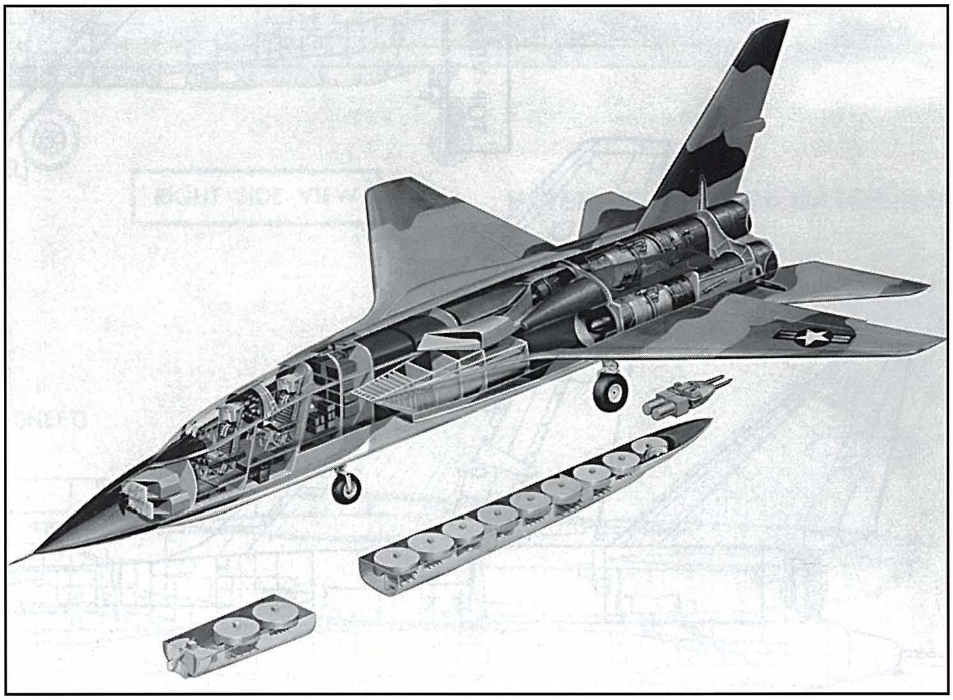


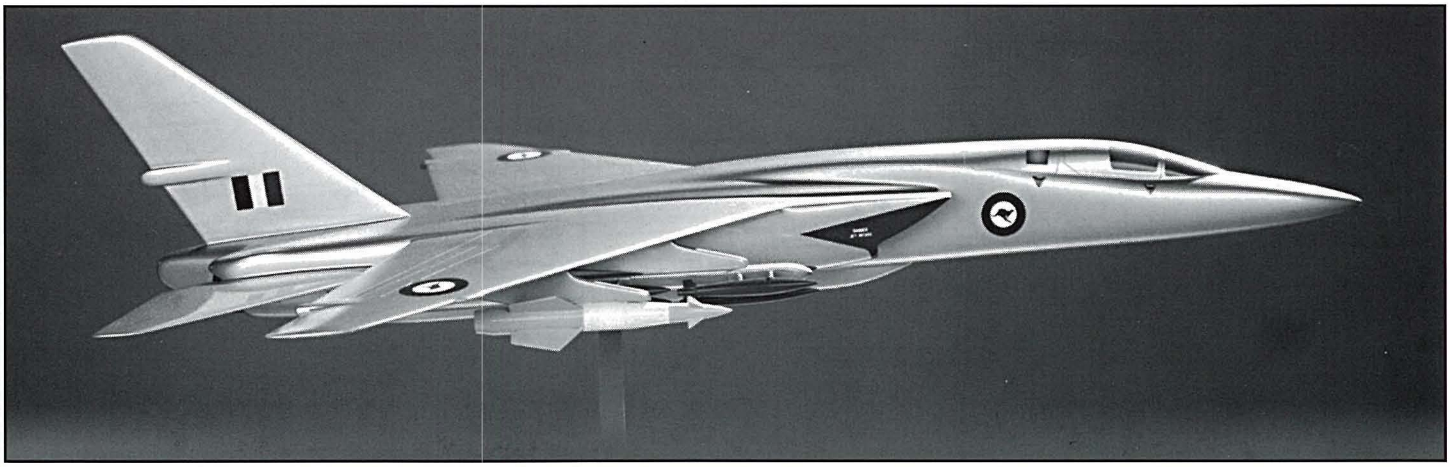


North American's NR-349 study was for an advanced Vigilante that capitalized on the aircraft's high speed and extreme altitude capabilities. It was to be powered by three General Electric J79-GE-10 turbojet engines. The third engine, with bifurcated intakes, was to be, located between and above the Vigis two J79s. It was estimated that it would have been capable of speeds in excess of Mach 2.5 and altitudes of over 80,000 feet. As an Air Defense Command interceptor, the Vigi would have carried six Phoenix missiles or AIM-47 Falcons. The aircraft was meant to replace the Air Force's F-101, F-102 and F-106.

The Royal Australian Air Force needed a replacement for its aging fleet of English Electric Canberras and evaluated the Vigilante, Mirage IV, F-4 Phantom, and TSR.2 before deciding on the General Dynamics F-111. Great Britain also showed interest in the aircraft for its proposed CVA-01 super carrier, but the matter was dropped when Britain killed the project and all future conventional carriers in the Royal Navy in 1966.

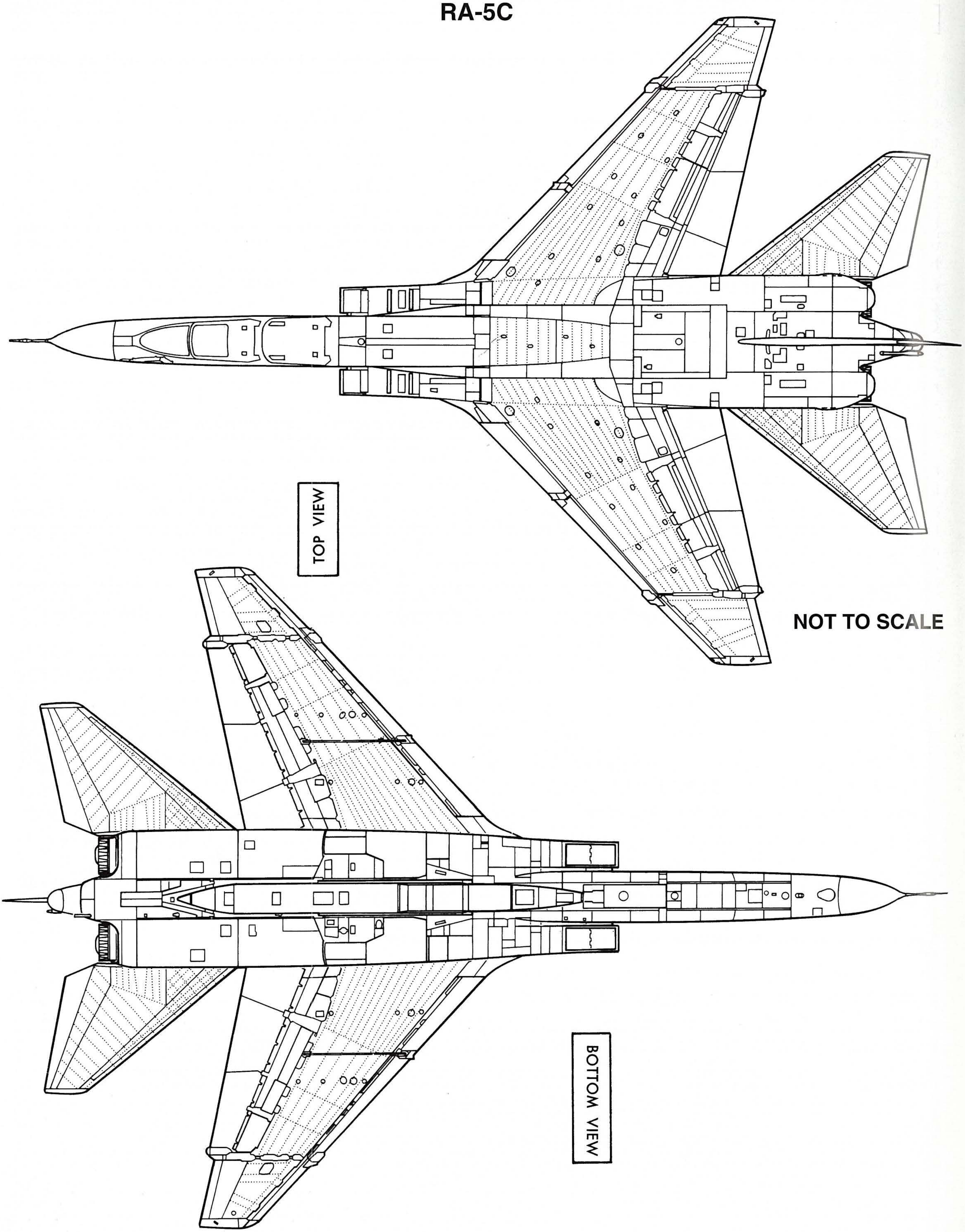




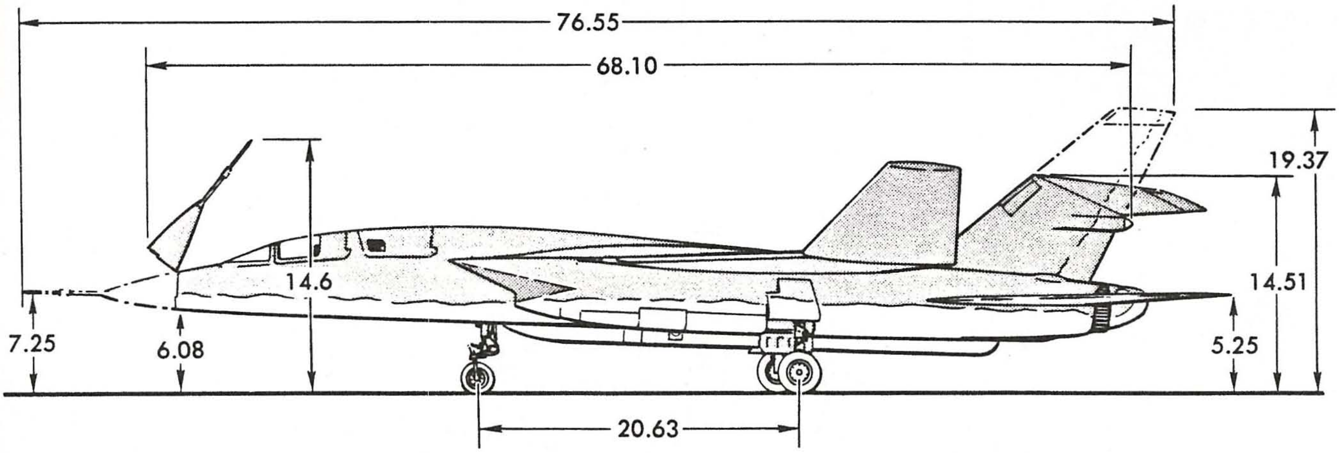


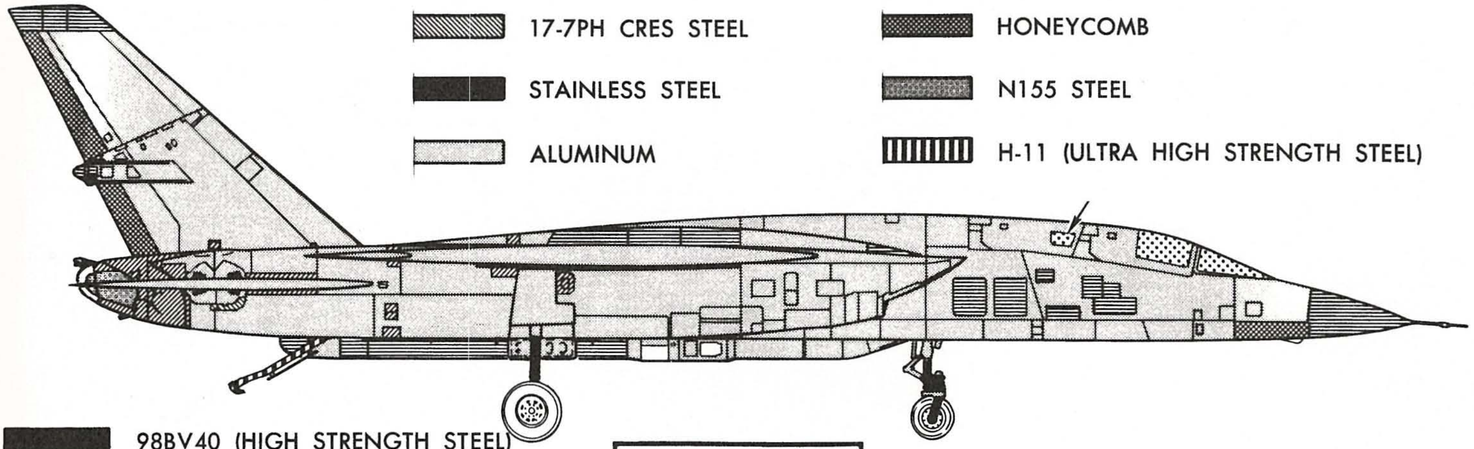
Above right, North American's illustration of its proposed F-101, F-102 and F-106 replacement. At right, cutaway of the NR-349 proposal for the U. S. Air Force. Note location of the intake for the third engine. Below, model of the Vigilante pitched to the Royal Australian Air Force. (MFR via Terry Panopalis)

RA-5C


TOP VIEW
BOTTOM VIEW

NOT TO SCALE


76.55
68.10
19.37
14.6
14.51
7.25
6.08
5.25
20.63



▨ 17-7PH CRES STEEL

■ STAINLESS STEEL

▭ ALUMINUM

▩ HONEYCOMB

▦ N155 STEEL

▥ H-11 (ULTRA HIGH STRENGTH STEEL)

■ 98BV40 (HIGH STRENGTH STEEL)

▨ TITANIUM

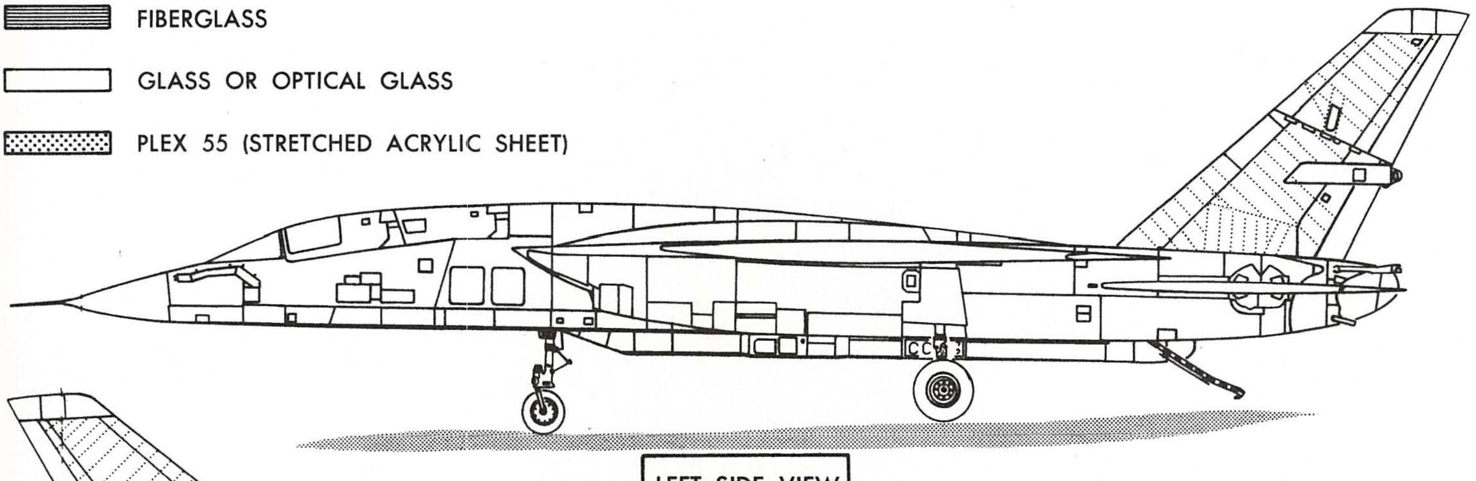
▤ FIBERGLASS

□ GLASS OR OPTICAL GLASS

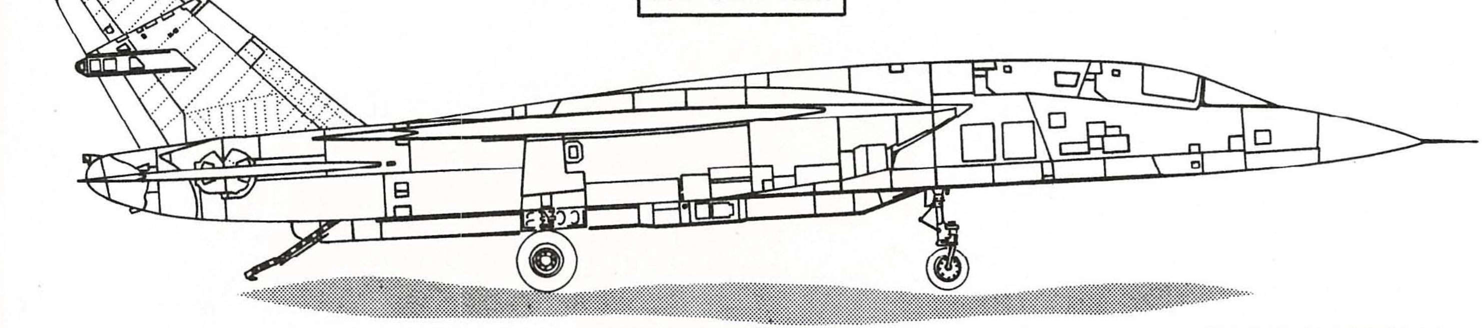
▒ PLEX 55 (STRETCHED ACRYLIC SHEET)

RIGHT SIDE VIEW

EXTERIOR SURFACE MATERIALS



LEFT SIDE VIEW



RIGHT SIDE VIEW

NOT TO SCALE

147856
AIR FORCE
NAVY
856

305
GJ
156640
NAVY
RVAH-3
305

NG
15084
USS EN
RVAH-6
602

XII
AC
156643
USS SARATOGA
603